# **OpenEMR 3.2.0 Appliance Manual**

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LINK TO MANUAL IN PDF FORMAT

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## Introduction

#### Main TOC Link

The clinical benefits of computerized medical records are clear, however, the costs of current proprietary systems are large. This high cost precludes many small practices from transitioning to computerized medical records. Open Source medical record systems are quickly becoming a viable, cost effective alternative.

The goal of this project is to maintain a comprehensive Open Source Medical Practice Management Software Appliance, which provides office scheduling, electronic medical records, prescriptions, insurance billing, accounting, and access controls. This appliance has many possible applications, such as a fully functional demo, a testing/developing platform, and as the starting point in real world clinic applications. It can be run on any operating system that supports the *VMware Player*. The detailed building instructions of this appliance are also included in this manual, which will allow easy modification/updates of appliance and will allow simple transition to a native server, if required.

OpenEMR is installed on the Ubuntu 8.04 Server Edition operating system. For users whom require a GUI desktop, the Ubuntu Server edition OS (8.04) does not come with a desktop, however it is easy to install and is described in this manual. The administration in the Ubuntu Server can be mostly done via Webmin, which is described in this manual.

This manual contains instructions on downloading, starting, and using the OpenEMR Appliance, OpenEMR user manual web links, helpful tips on OpenEMR use, instructions for configuration and administration of the Appliance, and full detailed instructions on how the Appliance was built.

The *Download the OpenEMR Appliance and VMware Player* chapter contains how and where to download software from.

The *Start the OpenEMR Appliance* chapter contains information on starting the OpenEMR Appliance.

The *Using the OpenEMR Appliance* chapter contains information on how to use the OpenEMR Appliance, web links to User Manuals, helpful tips, and all the login names and passwords that will be needed while using the appliance.

The *Configuration of the OpenEMR Appliance* chapter describes how to configure and administer OpenEMR and the appliance. There are instructions describing how to set up a printer, an email server, and an automated backup scheme. This chapter also describes how to choose the visual layout of OpenEMR

and how to add the pharmacy dispensary module along with other instructions on setting up a static IP address, installing a desktop environment, setting the time, changing the password, and safely shutting the appliance down.

The *Instructions for Building the OpenEMR Appliance* chapter describes in detail how this Appliance was built.

## **Online Demo**

Main TOC Link

Here is the online demo of the OpenEMR 3.2.0 appliance:

#### With the new frames look:

<u>http://OpenSourceEMR.com:2096/openemr/</u> (Main OpenEMR program)

This is a fully functional demo, which allows you to play around with all the software packages in the appliance. It uses all the same logins and passwords as the appliance( refer to 'Login Name and Password' section). The OpenEMR users were added to demonstrate the access controls:

ian)
an)

Don't worry about breaking it, because it resets itself to its original state every day at 5:00AM Pacific Time. Have fun. (If demo is not working email me at brady@sparmy.com)

## **Download the OpenEMR Appliance and VMware Player**

- 1. Download and install the FREE VMware Player at: <u>http://www.vmware.com/products/player/</u>
- 2. Download the FREE OpenEMR Appliance.

- 1. You can download Appliance via Direct Download or Torrent (file is 760MB, which extracts to 2GB):
  - 1. Direct Download from Sourceforge: <u>http://downloads.sourceforge.net/openemr/OpenEMR-3-2-0-appliance-1.zip</u>
  - 2. Torrent file link: <u>http://www.bradymd.com/OpenEMR-3-2-0-appliance-1.torrent</u> (If you need a torrent software client, then try: <u>http://azureus.sourceforge.net/</u>)

## Start the OpenEMR Appliance

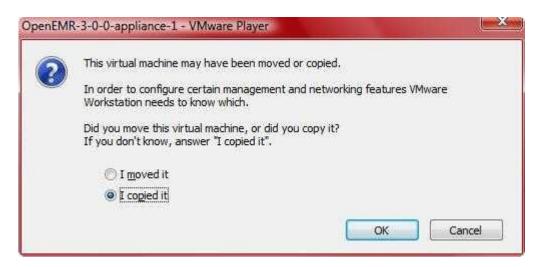
Main TOC Link

## Windows

- 1. Unpackage the OpenEMR-3-2-0-appliance-1.zip file.
- 2. Run VMware Player (screenshot below).

With White Player VMware Player	-	×
🗐 vmware:	Commands	Í.
<b>~</b> 7	Open Open	
	Download a virtual appliance from VMware Virtual Appliance Marketplace. You can then open it in VMware Player.	
	Recent Virtual Machines	1
	Featured Virtual Appliance	
		£1.,
VMware Player	Accellion File transfer virtual appliance An on demand file transfer solution that is secure, economical, and easy to use for end users and IT management.	
	🗊 <b>vm</b> ware	

- 3. Start up the OpenEMR Appliance by opening the OpenEMR-3-2-0appliance-1.vmx file in the VMware Player.
- 4. If this is your first time starting the OpenEMR Appliance, then a window will pop up (see screenshot below). Select 'I copied it' and click the 'OK' button.



- 5. Several windows may also pop up explaining that certain drives or sound drivers are not gonna work. Just click 'ok' and continue.
- 6. Ubuntu will now boot up, just give it some time. After boot up you will see the following introduction screen:

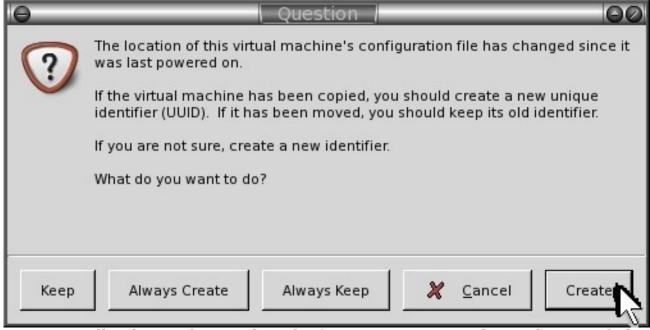


This is the introduction screen. Note that it automatically displays the IP address of your appliance, along with links to OpenEMR and Webmin. These links are customized for you depending on your IP address. The initial important user names and passwords are also displayed. To use appliance, proceed to the 'Using the OpenEMR Appliance' section below.

### Linux

- 1. Unpackage the OpenEMR-3-2-0-appliance-1.zip file (use the 'unzip OpenEMR-3-2-0-appliance-1.zip' command).
- 2. Run VMware Player.
- 3. Start the OpenEMR appliance by opening the OpenEMR-3-2-0appliance-1.vmx file in the VMware Player.

4. If this is your first time starting the OpenEMR Appliance, then the below window will pop up:



You will only see this window the first time you start the appliance. Click 'Create'.

- 5. Several windows may also pop up explaining that certain drives or sound drivers are not gonna work. Just click 'ok' and continue.
- 6. Ubuntu will now boot up, just give it some time. After boot up you will see the following introduction screen:

```
OpenEMR-3-0-0-appliance-1 VMware Player 
  Devices 

                                                                                             - 🗆 X
                                                                                            E OK 1
 * Running local boot scripts (/etc/rc.local)
Welcome to the OpenEMR Appliance!!
Nost Recent User Manual can be found at http://bradymd.com/appliance
The IP address of this appliance is: 192.168.1.144
OpenEMR -> https://192.168.1.144/openemr user: admin
Webmin -> https://192.168.1.144:10000/ user: openem
                                                                        pass: pass
                                                     user: openemr pass: openemrcool
The HITPS(443), SSH(22), and Webmin(10000) ports are open.
Appliance login name is openemr with password openemrcool
To run a command as administrator (user "root"), use "sudo <command>".
sudo command password is openemrcool
MySQL user is openemr with password openemr
MySQL root user has an empty password
(Note that the above passwords are from initial configuration)
Software version information: Ubuntu Server Edition 8.04, OpenEMR 3.0.0, Webmin
1.450, Apache 2.2.8, MySQL 5.0.51a, and PHP 5.2.4.
openemr login:
                                                                  🛶 🕑 🗄 🕵 🔂 🚽 💷 vm ware:
To direct input to this virtual machine, press Ctrl+G.
```

This is the introduction screen. Note that it automatically displays the IP address of your appliance, along with links to OpenEMR and Webmin. These links are customized for you depending on your IP address. The initial important user names and passwords are also displayed. To use appliance, proceed to the 'Using the OpenEMR Appliance' section below.

## **Using the OpenEMR Appliance**

Main TOC Link

### **Using OpenEMR Appliance**

- 1. You connect with the OpenEMR Appliance through a web browser. You can get the Appliance IP address along with links to OpenEMR and Webmin on the above <u>introduction</u> screen. Use those links as the web address on another computer's web browser. (If you get a security error in your web browser, then first follow the instructions in below appendix section '<u>Configuring client web browser for https</u>' to configure your web browser.)
  - 1. OpenEMR at https://Appliance\_IP\_address/openemr

•
R

2. Webmin at https://Appliance\_IP\_address:10000/

Mozilia Firefox			
<u>File Edit View History Delicious</u>	<u>I</u> ools <u>H</u> e	lp .	÷
W https://192.168.1.167:10000/	×		•
		t enter a username and password to gin to the Webmin server on 192.168.1.167 De openemr	
		Remember login permanently?	
		Login Clear	
Done			192.168.1.167:10000 🔒 🛃 🖼 🔛

- 3. For the list of application login names and passwords go to the 'Login Name and Password' section below.
- 2. You can also change your IP address to a static one, so it doesn't change after your virtual server is turned off or re-started. Directions to to do this are in the '<u>Static IP Address Setup</u>' section.

## **OpenEMR User Training**

Main TOC Link

- 1. There is an excellent OpenEMR wiki with user manual links at: <u>http://www.openmedsoftware.org/</u>
- 2. You can ask question at the SourceForge OpenEMR forum at: <u>https://sourceforge.net/projects/openemr/forums</u>
- 3. The OpenEMR home page is here: <u>http://www.oemr.org/</u>
- 4. The most current version of this appliance user manual will hopefully always be available at: <u>http://www.bradymd.com/appliance</u>

## **Helpful Tips**

Main TOC Link

1. **NEED** to ensure clock is set correctly (Virtual computer time should not differ from the host computers, or there will be cron scheduling problems)

## List of Login Names and Passwords

#### Main TOC Link

- 1. Ubuntu user -> user: 'openemr' password: 'openemrcool'
- 2. Ubuntu sudo command -> password: 'openemrcool'
- 3. Webmin -> user: 'openemr' password: 'openemrcool'
- 4. OpenEMR -> user: 'admin' password: 'pass'
- 5. MySQL user -> user: 'openemr' password: 'openemr'
- 6. MySQL admin -> user: 'root' NO PASSWORD

## **Configuration of the OpenEMR Appliance**

Main TOC Link

### **OpenEMR Visual Layout Configuration**

Main TOC Link

1. OpenEMR has three visual layouts to choose from; the traditional layout, a frames layout with radio buttons, and a frames layout with a tree view menu. We will first show screenshots of the available layouts, and then will show how to configure this option. The default view of OpenEMR 3.2.0 is the tree view.

🕘 OpenEMR - Mozilla Firefox				- D ×
Eile Edit View History Deliciou	us Icols Help			
OpenEMR	×			
Name - Find P	atient New Patient	Password Admin	Appts Reports Note	s AB Billing Home Logout
Logged in: Administrator (Defau	M)		Active Patient: None	March 1, 2009
All Users	2009-03-	01 🔛 Day View	+ Go Today	Add Search
Administrator				
All Facilities	•	<< Sunday, Marc	n 1, 2009 >>	
		Administrato	r	1
8:00 IN				
8:15				
8.30				
8:45				
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9.30				
9:45				
10.15				
10.30				
10:45				
11:00				
Patient Notes (See All) and A	uthorizations (More)	(First Ballant)		I I
aucht Hotes (see Au) and A	tation zations (nore)	(Find Patent)		
Done				192.168.1.131 🔒 📑 🖾

Traditional view (also called old-style layout).

🕃 OpenEMR - Mozilla F	irefox		- 0 ×
Eile Edit View Histo	ry Delicious <u>T</u> ools	Help	-535
OpenEMR	×		
Logged in: Administr	ator (Default)	Active Patient: None	March 1, 2009
And the second s	All Users Addministrator 8:00 IN 8:15 8:30 8:45 9:00 9:15 9:30 9:45 10:00 10:15 10:30 10:45 11:00 4:45	SA SA ASSASS	Contractor and Contractor
Active Patient: None Active Encounter. None Popups • Find • by Name ID SSN DOB Logout Done		1921681131	

Frames with navigation by radio buttons.

	- • ×
File Edit View History Delicious Iools Help	- 43 - - 13 - - 13 - 13 - 13 - 13 - 13 -
OpenEMR ×	
Logged In: Administrator (Default) Active Patient: None M	larch 1, 2009
Coged in: Administrator (befault)     Active Patient: None       V rop Bet (V)     All Users     2009:03:01     Day View ~ Go     Today     Add       Patient/Clent     All Facilities     <<     Sunday, March 1, 2009 >>     Add       View Vest     8:16       Administrator       Cokindar     8:45          Falsent     9:00           Chart Tracker     9:16          9:00     9:00           Chart Tracker     9:16          9:00     9:46           10:00     10:00          Patient Tracker     9:16          9:00     10:00          10:00     10:00          10:00     10:00          10:00     10:00          10:00     10:00          10:00     10:00          10:00     10:00          10:00     10:00 <th>Search =</th>	Search =
Done 1921681131	

Frames with navigation by a tree view menu.

2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

#edit the file /var/www/openemr/interface/globals.php: sudo jed /var/www/openemr/interface/globals.php

#change below **bolded** number to desired layout :

- // Set this to 1 or 2 to activate support for the new frame layout.
- // 0 = Old-style layout
- // 1 = Navigation menu consists of pairs of radio buttons
- // 2 = Navigation menu is a tree view

//

\$GLOBALS['concurrent\_layout'] = 2;
TEXT EDITOR SAVE AND EXIT

### **Pharmacy Dispensary Module Configuration**

Main TOC Link

- 1. The pharmacy dispensary module will allow you to dispense and keep track of your own med/herbs/supplement dispensary. It will also create bottle labels of the drugs you dispense.
- 2. Turn on the pharmacy dispensary module in the OpenEMR configuration file. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

#edit file /var/www/openemr/interface/globals.php sudo jed /var/www/openemr/interface/globals.php #edit the following bolded variable : \$GLOBALS['inhouse\_pharmacy'] = true; TEXT EDITOR SAVE AND EXIT

1. Here are some quick OpenEMR screenshots (note these were taken from version 2.8.3 with the Traditional View) that show how to navigate to the pharmacy dispensary module for administrative purposes:

Name 💌 Find Patient			Notes AB		
Logged in:Clinical Director ()	Healthy Choice Clinic)	13	Sur	September 9	9th 2007
All Users	2007-09-09 🔢 Da	y View 💌 🖸 Go 🛛 Today	<u>/</u>	Add	Search
Clinical Director Taundra Sanders	<< Sunday, Se	eptember 9, 2007 >>			
C Director		T Sanders		B Bush	
8:00	8:00		8:	00	
				1	
				*	
Patient Notes (See All) and Au	thorizations(More) (Find	J Patient)			

Click 'Administration'

Users & Groups Forms	Practice	Calendar	Database	BatchCom		Language	Logs	Back
Logged in: Clinical Direc	tor				12-	Sun Senter	nher 9th	2007
User & Group Administra	ation				N K	Y OpenEMR -	Free	*
New Facility Information:	Name:		Phone:					
			Fax:			_		
	Address:		City:					
	State:		Zip Coo	de:				
	Country:		Federal	EIN:				
				Add				
A transfer of the second second second								
Edit Facilities:	Main Clinic(Edit	)						
New User:	Username:			Password:			-	
	Groupname:	Healthy Cho	ice Clinic 💌	Authorized:	IT I			
	First Name:			Middle Name:			_	
	Last Name:			Default Facility:	Main Clin	ic \star	1	
	Federal Tax ID:	-		Federal Drug ID:	-		- i	
	UPIN:			See Authorizations	None	•	-	210
	Additional Info:				1			
				- î				
	Add							
New Group:	Groupname:		Initial User:	admin 🗾	Add			

Click 'Drugs'.

ogged in: Clinical	100000000000000000000000000000000000000				BatchCom	Drugs	Language	Logs	Back
ogged m. chincar	Direct	or					Sun Septe	mber 9th	2007
Name	NDC	Form	Size	Unit	Add	Lot	QOH	Expires	
				Add,Drug					

Click 'Add Drug', enter stuff and play around to figure out how to use.

Quick OpenEMR screenshots of prescribing drugs with the dispensary:

Summary	History	Encounter	Transaction	Documents	Report	Close	Popups	¥
And the second se	and the second se		e: 33, Home: 123-214			CALL CONTRACTOR OF CALL	A CONTRACTOR OF A CONTRACTOR O	۵
This Encount			0. 501 Home. 125 214	55 (5) <b>10 J</b>		category		-
<b>Clinical Directo</b>			tive: itchy foot			cutegory		-22
			ve: red foot					
			ment: athletes foot					
			nti-fungal cream					
An and the second second			ia-rungar cream					
<b>Clinical Directo</b>	r Patient Encou	unter						
						and a second		1
								Þ
Coding					Billing (Mo	ore) Justi	ify	*
Superbill						·		
ICD9 Search	n				[Receipt]			
CPT4 Search	h				_	5466 Foot Rub 3	2200.00	
HCPCS Sear	ch				CPT4	(416.0)		
Copay						1: 2200.00		
Other								
					ICD9 F 4	16.0 Prim Pulm Hy	pertension	
Prescriptions	5							
List Prescrip	tions							
Add Prescrip	ation .							
	13							
	0							
								•

Click 'Add Prescription'.

Summary	History	Encounter	Transaction	Documents	Report	Close	Pop	ups 🔻
<b>Robert Crawfo</b>	ord (ID: 1, 0	OB: 1974-02-12,	Age: 33, Home: 123-214	1-3543) Logged in	n as: Clinical	Director	Encounter	Sun A
This Encounte	r for Robe	ert Crawford:				catego	ry	2
Clinical Director	SOAP	Obje	ective: Itchy foot ctive: red foot ssment: athletes foot					
Clinical Director	Patient Enco	Plan:	anti-fungal cream			1		•
Coding Superbill ICD9 Search CPT4 Search HCPCS Searc Copay Other Prescriptions List Prescripti Add Prescript	ons	Starting Date Provider Drug in-house Quantity Medicine Units Take Refills Substitution Notes Add to Medication List Prescribe	in 00 y # of tablets: 0	Drug Lookup		5466 Foot (416.0) I: 2200.00	Justify Rub 2200.00 Im Hypertensio	<u> </u>

Note the things circled in red, which are part of the pharmacy dispensary module. Note that in version 3.0.1 the 'Prescribe and Dispense' button is now labeled 'Save and Dispense'.

### **Printer Setup**

#### Main TOC Link

1. For USB printers, you will need to connect the device by clicking on printer on top of window. Your host computer may no longer be able to see the printer after this step(not permanent, but can be a pain).

fulltestOpenEMRMandrivaAppliance	000
Player CD-ROM CCD-ROM Floppy Ethernet Sound Adapter Hewlett-Packard hp.LaserJet 3015	
🕐 Open Source Electronic Medical Record Software Review - Mozilla Firefox 🛛 🗸 💿 🕼	
<u>E</u> ile <u>E</u> dit <u>V</u> iew <u>G</u> o <u>B</u> ookmarks <u>T</u> ools <u>H</u> elp	<u>o</u> .
G ▼ 🕢 ~ 🕝 ⊘ 🕢 🗋 http://bradymd.com/#0.0.0.0.0.Prir ▼ 🗹 Go 🕞	
Mandriva Mandriva Store Mandriva Club Mandriva Expert Mandriva Online CLPI Printer Setup	»
Printer Setup	
Quick Index Link.	
1. For USB printers will need to connect the device thru VMWare menu->VM->Removable Devices->USB Devices. Your host computer will likely no longer he able to see the printer after this	

In this case I click on the 'Hewlett-Packard...' button at top of VMware window.

Θ	fulltestOpenEMRMandrivaAppliance
Player	CD-ROM CD-ROM Adapter CO-ROM CD-ROM CO-ROM C
<b>()</b>	)pen Source Electronic Medical Record Software Review - Mozilla Firefox 🛛 🕞 🕞 🙁
<u>F</u> ile	Edit View Go Bookmarks Tools Help
G	- 🕢 - 🥝 🕢 🗋 http://bradymd.com/#0.0.0.0.0.Prir 💌 🖓 Go 💽
≯ М.	landriva 📌 Mandriva Store 📌 Mandriva Club 🧚 Mandriva Expert 🏼 📌 Mandriva Online 🕲 LPI 🛛 »
	Printer Setup
	Quick Index Link.
	This is just to demonstrate that the 'Hewlett-Packard' button is now shaded.

2. Now, you need to add the printer . It would be great if we could add and administer the printer through webmin, but I was unable to get this to work. So we will add a new printer to CUPS directly. To do this, we will actually use a text based browser from the commandline (yes, you are now entering nerd world). Enter below **bolded** instructions on command line:

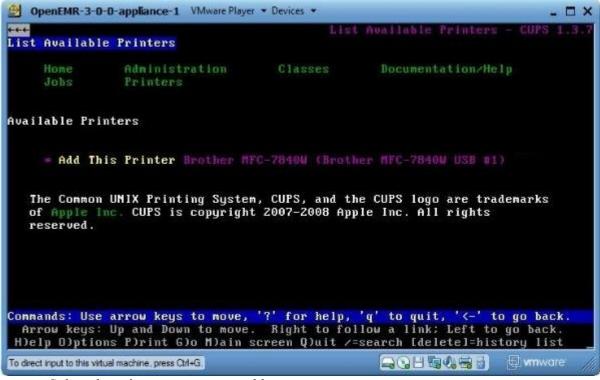
#open up web page with text based browser (use up/down
arrow keys or 'tab' key to scroll thru links and hit 'enter'
key to select a link)
lynx http://localhost:631

OpenEMR-3-	0-0-appliance-1 VMware Playe	r 🔻 Devices 🔻	- 🗆 >
Connon UNIX	Printing System 1.3.7		Home - CUPS 1.3.7 (p1 of 2
Home Jobs	Administration Printers	Classes	Documentation/Help
Welcone!			
perform s		tasks. Click o	inters and jobs as well as n any of the tabs above or
Help Add Manage Se		age Classes Ma	nage Jobs Manage Printers
lf you ar and passu	e asked for a username ord or the "root" user	e and password rname and pass	, enter your login username word.
About CUPS			
press spa Arrow keys	ce for next page : Up and Down to move	. Right to fo	ortable printing layer for llow a link; Left to go back. =search [delete]=history list
	itual machine, press Ctrl+G,	and an average of the second sec	

Select 'Administration'.



Select 'Find New Printers'. (it will take a bit of time to load next page)



Select the printer you want to add.

DpenEMR-3-	0-0-appliance-1 VMware Playe	r 🔻 Devices 🔻	_ 🗆 ×
add Printer			Add Printer - CUPS 1.3.7
	Administration Printers	Classes	Documentation/Help
dd New Prin	ter		
Name: Location:	(May contain any p		cters except "/", "#", and space)
	(Human-readable lo	cation such as	"Lab 1")
Descriptio	N: Brother MFC-7840W_ (Human-readable de Continue	scription such	as "HP LaserJet with Duplexer")
	n UNIX Printing Syste Inc. CUPS is copyrigh		he CUPS logo are trademarks ple Inc. All rights
Arrow keys		. Right to fo	≻ to submit. llow a link; Left to go back. =search [delete]=history list
To direct input to this vi	itual machine, press Ctrl+G		

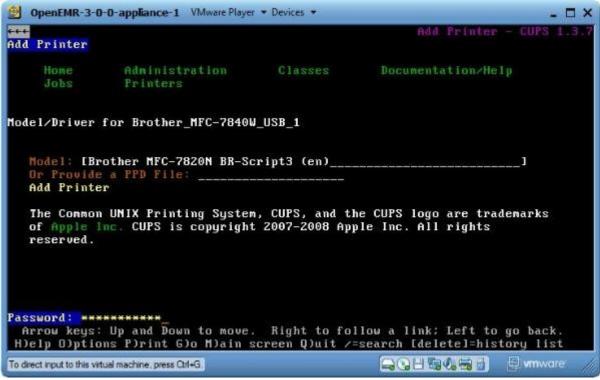
Follow instructions to fill out 'Name:', 'Location:', and 'Description:' fields. Then select 'Continue'. (it will take a bit of time to load next page)



Choose the 'Model:' (use right-arrow key to show the menu after you select this field). Then select 'Add printer'. (it will take a bit of time to load next page)



Enter username 'openemr'.



Enter your 'openemr' user password.

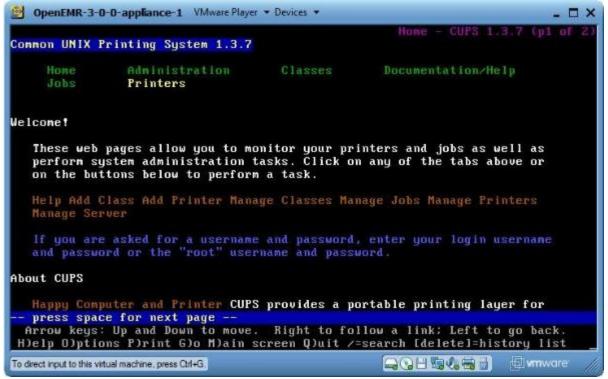
	-appliance-1 VMware Player •	Derices	- 🗆 ×
***			Add Printer - CUPS 1.3.7
REFRESH(5 se http://local _MFC-7840W_L	lhost:631/admin/?OP=s	et-printer-opt	ions&PRINTER_NAME=Brother
Add Printe	er		
	Administration Printers	Classes	Documentation/Help
Printer Br	rother_MFC-7840W_USB_	1 has been add	ed successfully.
The Common	INTY Printing Susta		남한 그는 그는 다. 이 방법에 있는 것이 있었는 것 같은 것은 것은 것을 다. 것이 가지 않는 것이 없는 것이 없는 것이 없는 것이 없다. 것이 없는 것이 없 않는 것이 없는 것이 없이 없는 것이 없 않이 않는 것이 없는 것이 없 않이 않은 것이 없는 것이 않은 것이 없는 것이 않은 것이 않은 것이 없는 것이 것이 없는 것이 없이 않이
	Inc. CUPS is copyrigh		he CUPS logo are trademarks ple Inc. All rights
of Apple 1			
of Apple 1			
of Apple d reserved. Commands: Use a	inc. CUPS is copyrigh Arrow keys to move, ''	t 2007-2008 Ap ?' for help, '	ple Inc. All rights q'to quit, '<-' to go back.
of Apple reserved. Commands: Use a Arrow keys: L	inc. CUPS is copyrigh Arrou keys to move, '' Jp and Down to move.	t 2007-2008 Ap ?' for help, ' Right to foll	ple Inc. All rights

Shows printer was successfully added. Type 'q' to quit.

3. Now that the printer has been added, we can print a test page and learn how to administer the printer. Again, it would be great if we could do this through Webmin, but I was unable to get this to work. So we will go back to using CUPS directly through our text-based browser.

#open up web page with text based browser (use up/down
arrow keys or 'tab' key to scroll thru links and hit 'enter' key
to select a link)

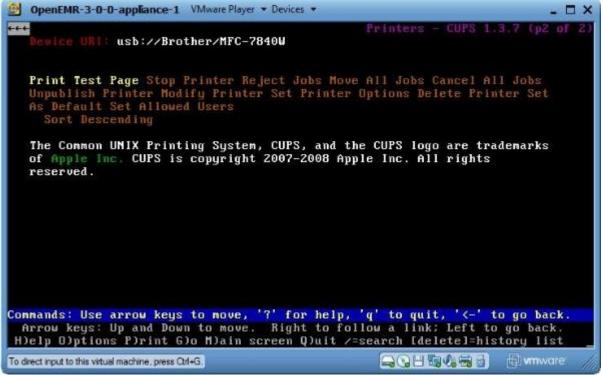
lynx http://localhost:631



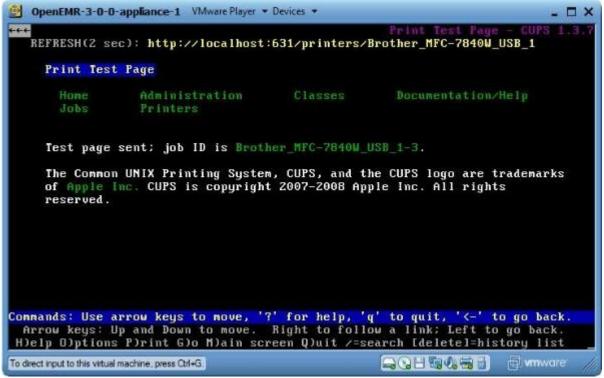
Select 'Printers'



Use down arrow key to scroll below the shown printer.



Select 'Print Test Page' (also note all the other administration options in case you need them in the future).



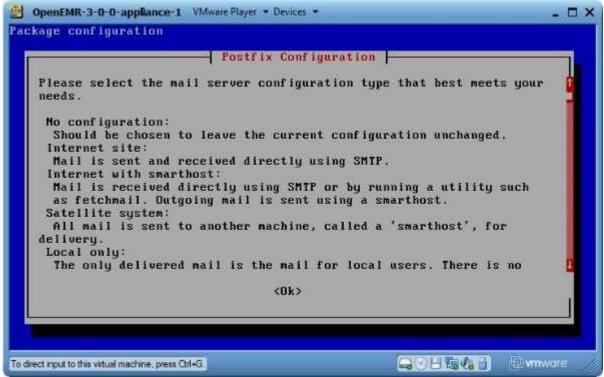
Confirmation of print job is shown. A test page should be sent to your printer. Type 'q' to quit. You are now officially a nerd.

### **Email Server Setup**

Main TOC Link

- 1. This will allow only locally produced emails (such as "status" emails during the below 'backup script' and emails originating from OpenEMR for appt confirmations) to be sent over the internet.
- 2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

#log into root
sudo aptitude install postfix



-Hit 'tab' key to select 'Ok'.

OpenEMR-3-0-0-appliance-1 VMw	are Player * Devices *	- 🗆 ×
Package configuration	Postfix Configuration I type of mail configuration: No configuration Internet Site Internet with smarthost Satellite system Local only	- □ ×
	<pre><cance1></cance1></pre>	
To direct input to this virtual machine, press Ctrl+G	QOU SAI	🔁 vmware 🥢

Select 'Internet Site', then select 'OK'.

without a domain This name will al fully qualified d Thus, if a mail a	name. Iso be used by othe Iomain name (FQDN). Iddress on the loca I this option would	l host is foo@example.org, the
	<0k>	(Cancel)

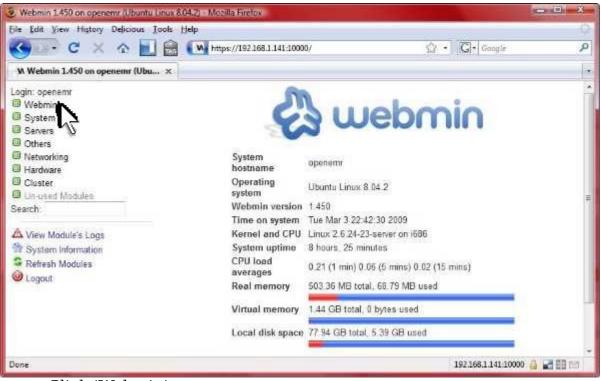
Enter the domain name that is put in the from field of your outgoing emails, for example ouroffice.com . (don't worry, this can always be changed after installation). Then select 'OK'.

3. Now we can configure the mail server in Webmin. First we will start the Postfix module in Webmin, and hen we will configure it. Point a web browser outside your appliance to the Webmin link reported in your appliance <u>introduction</u> screen.

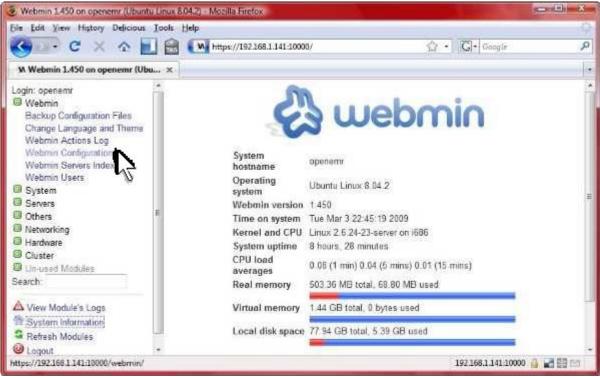
(If you are getting a certificate security error, then first follow the instructions in below appendix section '<u>Configuring client web browser for https</u>' to configure your web browser.)

Mozilia Firefox		
<u>File Edit View History Delicious</u>	<u>I</u> ools <u>H</u> elp	(main)
W https://192.168.1.167:10000/	×	
	Login to V You must log Username Password	enter a username and password to in to the Webmin server on 192.168.1.167 openemr
Done		192.168.1.167:10000 실 🛃 🖾

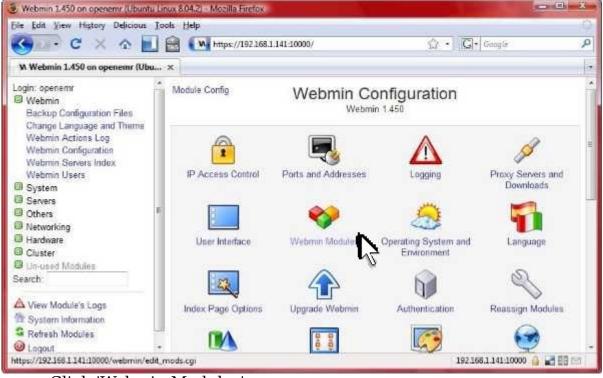
Login.



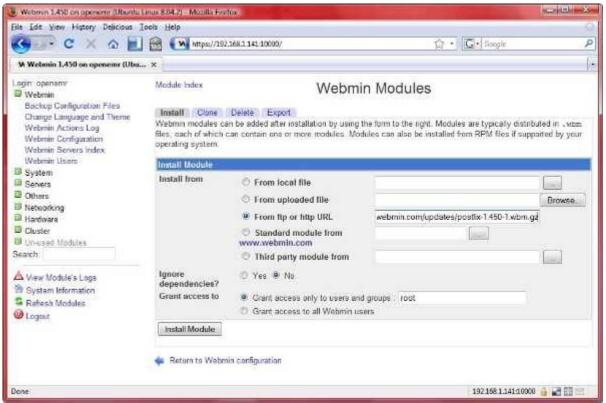
Click 'Webmin'.



Click 'Webmin Configuration'



Click 'Webmin Modules'.

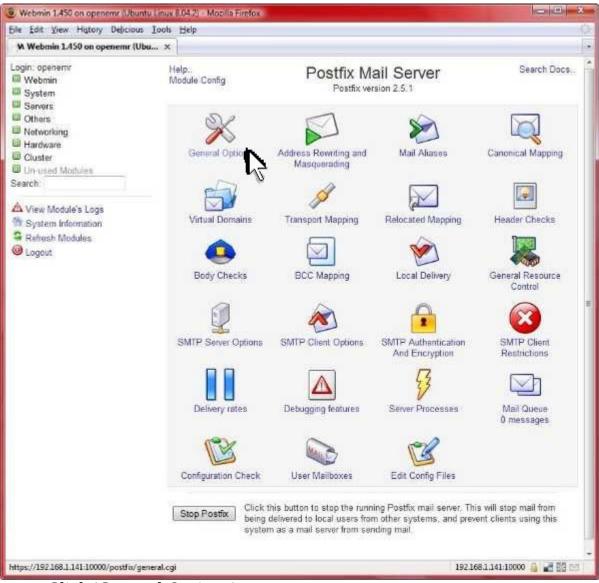


Toggle on 'From ftp or http url', then enter

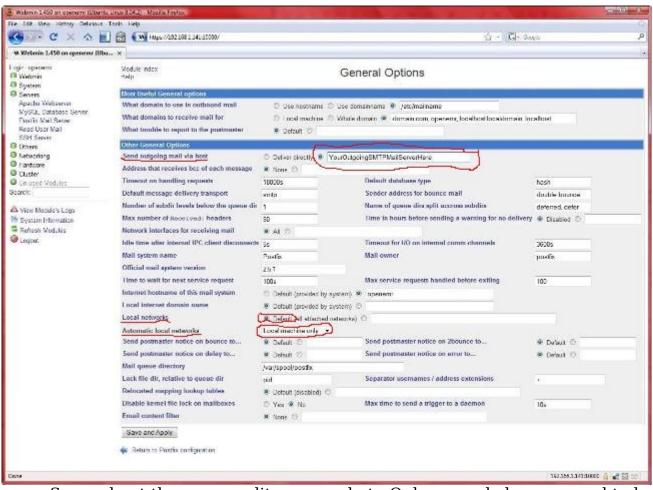
'http://www.webmin.com/updates/postfix-1.450-1.wbm.gz'. Then click 'Install Module'. (We can't use the usual standard postfix module because of a bug in mail aliases).



Confirmed successful installation. Then click 'Postfix Mail Server'.

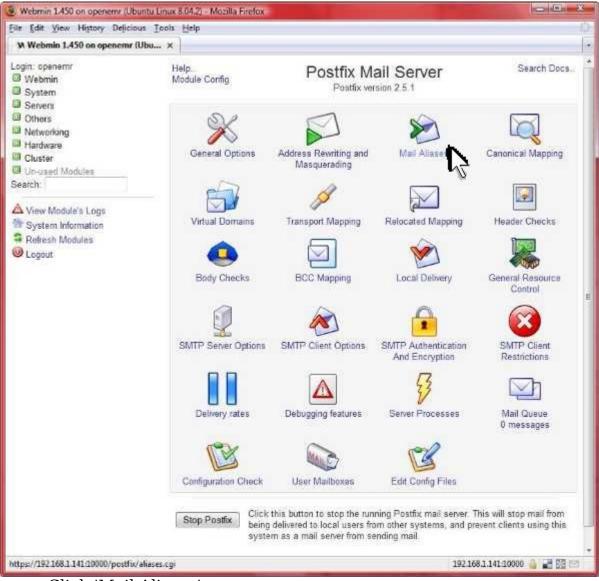


Click 'General Options'.



Sorry about the poor quality screenshot. Only several changes need to be made here (circled in red), which are all detailed directly below.

- 1) In 'Send outgoing mail via host', type your outgoing smtp mail server here (this should be given by your internet service provider).
- 2) In 'Local networks', toggle on 'Default'.
- 3) In 'Automatic local networks', choose 'Local machine only'.
- 4) Click the 'Save and Apply' button.



Click 'Mail Aliases'.

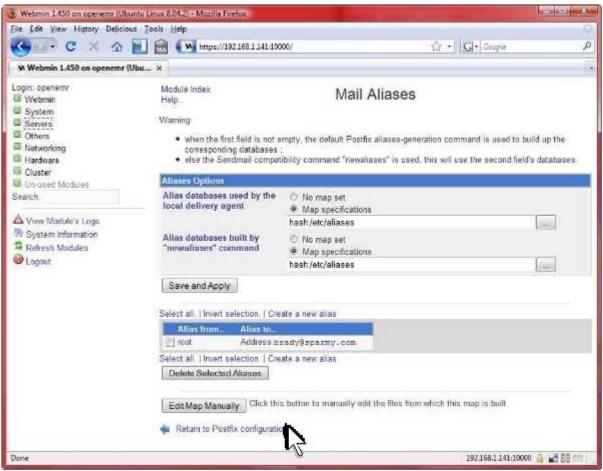
🕑 Webmin 1.450 on openemr (Ubuntu Lir	ux 8.04.2) - Mozilla Firefox	- C - S-
Eile Edit View History Delicious To	ols Help	0
W Webmin 1,450 on openemr (Ubu	×	
Login: openemr Webmin System Servers Others Networking Hardware Cluster Un-used Modules	up the correspondi	Mail Aliases is not empty, the default Postfix aliases-generation command is used to build ng databases : compatibility command "newaliases" is used, this will use the second field's
Search	Allases Options	
View Module's Logs     System Information     Refresh Modules     Dogout	Alias databases used by the local delivery agent Alias databases built by "newaliases" command	No map set     Map specifications     hash/etc/aliases     Map specifications     Map specifications     hash/etc/aliases
	Save and Apply	
	Select all.   Invert selection	n.   Create a new alias
	El mot	Alian to Address openeme
	Select all weit selection	Contraction of the second s
	Edit Map Manually C	lick this button to manually edit the files from which this map is built.
https://192168.1.141.10000/postfix/edit_ali	as,cgi7num=0	192.168.1.141.10000 🔒 🛃 😁

Click 'root'.

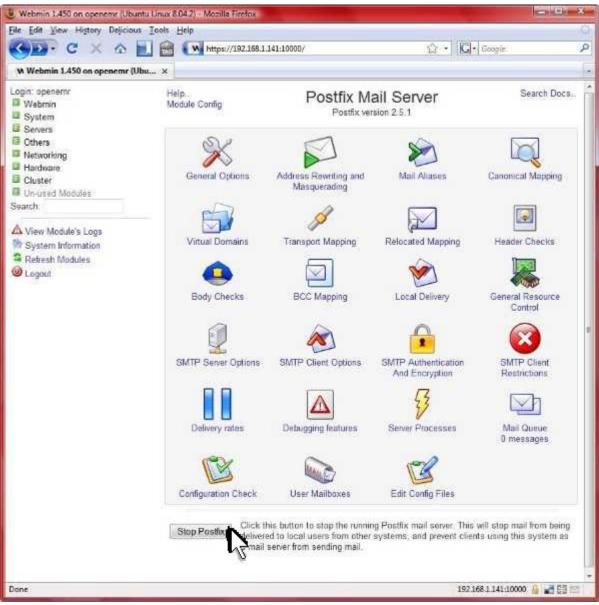
🕑 Webmin 1.450 on openemr (Ubur	ntu Linux 8.04.2) - Mozilla Firefox	
Eile Edit Yiew History Delicious	s Iools Help	分
W Webmin 1.450 on openemr (U	bu ×	
Login: openemr Webmin	Module Index Edit Alias	
System Servers	Edit Alias	
Others	Description	
Networking	Address root	
<ul> <li>Hardware</li> <li>Cluster</li> </ul>	Enabled?   Yes   No	
💷 Un-used Modules	Allas to Email address + Put Your Email Address Here	
Search	Alias to <none> +</none>	
A View Module's Logs	Save	
System Information		
Refresh Modules	Return to Postfix configuration	
() Logout		
Done	192.168.1.141:10000	1 B3 C

This is where you can direct all the administrative messages created by

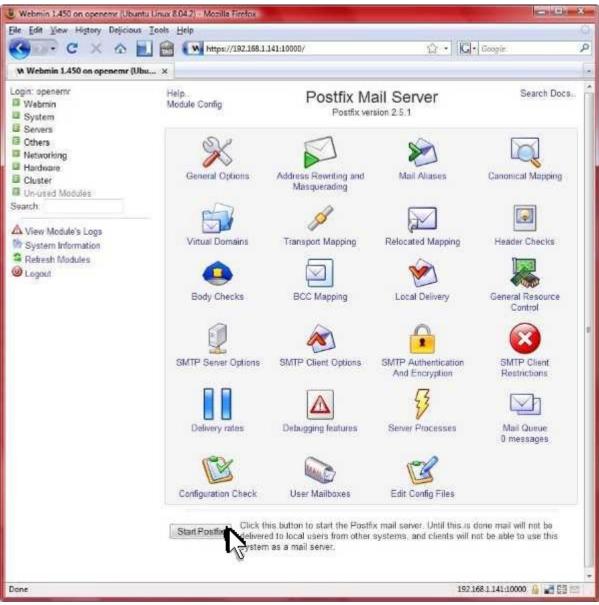
your appliance to your email address. Enter your email address in the field circled in red. Then click 'Save'.



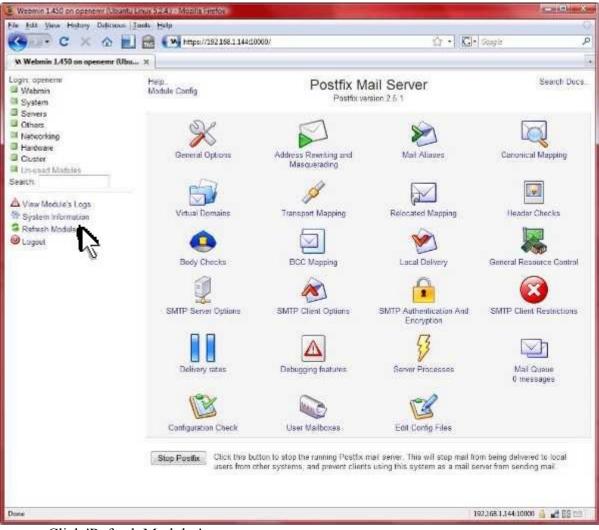
It worked, click 'Return to Postfix Configuration' to restart Postfix.



At bottom of page click 'Stop Postfix'.



At bottom of page click 'Start Postfix'.



Click 'Refresh Modules'.

SWebmin 1.450 on openemr (Ubuntu	Linux 5:2:4) - Mozilla Firefox
Eile £dit ⊻iew History Delicious	Iools Help
🔇 💽 C 🗙 🏠 📘	▶ 🙀 M https://192.168.1.144:1 🏠 + 💽 • Google 🖉
W Webmin 1.450 on openemr (Ubu	X
Login: openemr Webmin System Servers Others Networking Hardware Cluster Un-used Modules Search:	Refresh Modules Checking for usable Webmin modules found 56 with installed applications, 48 not installed.
<ul> <li>View Module's Logs</li> <li>System Information</li> <li>Refresh Modules</li> <li>Logout</li> </ul>	
Done	192.168.1.144:10000 🏭 🛃 🖾

After done, then refresh browser (this will place a postfix link into Webmin's menu in the 'Servers' section).

4. You are now done. For the future you can now get to the postfix configuration menu in Webmin in the 'Servers' section.

## **Backup (Automatic) Setup**

#### Main TOC Link

1. Automatic backups are extremely important. There are numerous strategies and tools to do this. You can back up the entire appliance (turn it off first), you can use tools in Webmin, or you can use scripts/ tools in linux. There is no absolute right way to do it (many administrators will employ more than one mechanism), but you have to do it. Imagine the horror if you walked into your clinic one day, and all of your data was gone. Considering the sensitivity of data, it is also a good idea to consider encryption with some backup schemes. The things that need to be backed up in the OpenEMR 3.0.0 Appliance are the openemr MySQL database and the openemr web directory.

- 2. The script provided will enable a daily backup of the openemr database in the MySQL server and the OpenEMR web directory. The script will place a non-encrypted backup in the local hard drive secured /backup directory, and will also copy an encrypted backup to a DVD. The DVD copy works via multi-session, so you basically just need to leave one DVD in the DVD writer until it fills up. Do NOT use RW DVD. This script will work and should be used with R only DVD's. The output of the automated backup script will be emailed to the person's email entered in above email server setup.
  - 1. The local /backup directory will have to be manually cleaned up occasionally. I'd recommend deleting old backup sub-directories on a monthly basis or so. (of course, a script could be written for this)
  - 2. There is no restore script yet, will have to be done manually.
  - 3. The MySQL database is gzipped and the OpenEMR web directory is tarred and gzipped.
- 3. Configure file encryption package:
  - 1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

#Configure file encryption. If you want to be able to decrypt your encrypted files you need to remember (case sensitive) the passphrase that you type below. I'd also remember all the other info you type below.

#### cd /home/openemr sudo gpg --gen-key

- -'ENTER' to default of 1 for key selection
- -'ENTER' to default 2048 keysize bits
- -'ENTER' to default '0' so key does not expires
- -Type 'Y' to confirm above
- -Type your real full name
- *-Type your real email address*
- -Type 'openemr secure backup key'

-Type 'O' to confirm

-Type a very secure and long 'passphrase' (the longer your passphrase is the more secure, go for at least 15 characters with numbers, different cases, and strange characters)

**#IMPORTANT!!!** You **NEED** to backup the entire contents of directory **/home/openemr/.gnupg** on the most indestructible disk(s) you can find and then keep in a secure place. This directory contains your secret key file, and without this you will be unable to restore from your encrypted data backup!!! You also need to **remember** your **passphrase**, or you won't be able to restore your backed up data.

#The decrypt command, in case you need at some point: #gpg -o OutputFilename -d InputFilename

- 4. Configure backup script and automate it:
  - 1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

#install the DVD burner software
sudo aptitude install dvd+rw-tools
-y to packages

#create a secure backup directory sudo mkdir /backup sudo chown root:root /backup sudo chmod 700 /backup

#download and move the backup script to /root , secure it, and allow execution

wget http://www.bradymd.com/fullbackup3.sh sudo mv fullbackup3.sh /root sudo chown root:root /root/fullbackup3.sh sudo chmod 700 /root/fullbackup3.sh

#edit file /root/dailybackup3.sh:
sudo jed /root/fullbackup3.sh

#edit the below DVDDEVICE line to what the
#device for the DVD writer is. In the appliance (3.0.0)
#it should be '/dev/scd0'.
DVDDEVICE=/dev/scd0

**#edit** full name you entered **above** for **encryption** key: YOURFULLNAME='*Brady Miller*' **TEXT EDITOR SAVE AND EXIT** 

#Automate script to cron for a daily run at 1:02 AM. WARNING: This script needs to finish and start on the same day since it plays around with file names using the date command. Basically, don't start this script before midnight unless you are sure it will finish before midnight. This is why I have it set for 1:02AM.

#### export EDITOR=/usr/bin/jed sudo crontab -e

#paste below line at end of file (also ensure you add a new line(enter key) after this line): 02 1 \* \* \* /root/fullbackup3.sh

TEXT EDITOR SAVE AND EXIT

### **Static IP Address Setup**

Main TOC Link

- 1. These are instructions for setting up a static IP address for your appliance using Webmin.
- 2. First, you should record the required IP addresses (example form below). The 'Appliance IP Address' is going to be the IP address of your appliance (within your network). The 'Subnet Mask' is 255.255.255.0 in most cases. The 'Broadcast IP Address' can be calculated by comparing the 'Appliance IP Address' and the 'Subnet Mask'. For example, if the 'Appliance IP Address' is 192.168.1.114 and the 'Subnet Mask' is 255.255.255.0, then the 'Broadcast IP Address' is 192.168.1.255. There is also a Subnet calculator that can calculate the 'Broadcast IP Address' at <a href="http://www.subnet-calculator.com/">http://www.subnet-calculator.com/</a>. The 'Gateway IP Address' is the IP address of your gateway. The 'DNS server IP Address' entries are the IP addresses of your DNS servers (the DNS server IP addresses are generally supplied by your internet service providers, and there are usually two of them).

Appliance IP Address:	
Subnet Mask:	
Broadcast IP Address:	
Gateway IP Address:	
DNS server IP Address:	
DNS server IP Address:	

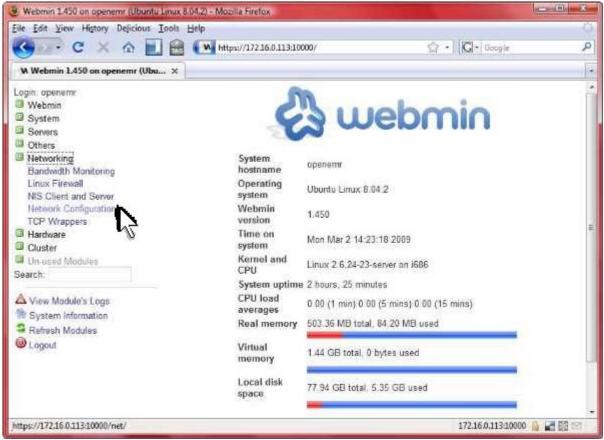
3. Point a web browser outside your appliance to the Webmin link reported in your appliance <u>introduction</u> screen.

Mozilia Firefox	-		
<u>File Edit View History Delicious</u>	<u>I</u> ools <u>H</u> elp	ž.	\$- -
W https://192.168.1.167:10000/	x		•
		enter a username and password to in to the Webmin server on 192.168.1.167. openemr	
Done			2.168.1.167:10000 실 🛃 🖽 📨

Login.



Click 'Networking'.



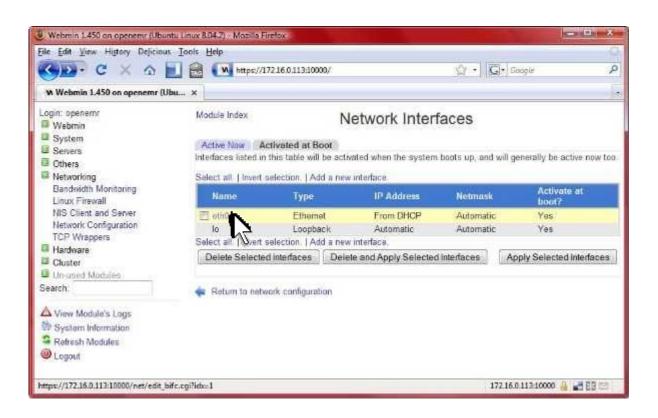
Click 'Network Configuration'.



Click 'Network Interfaces'.



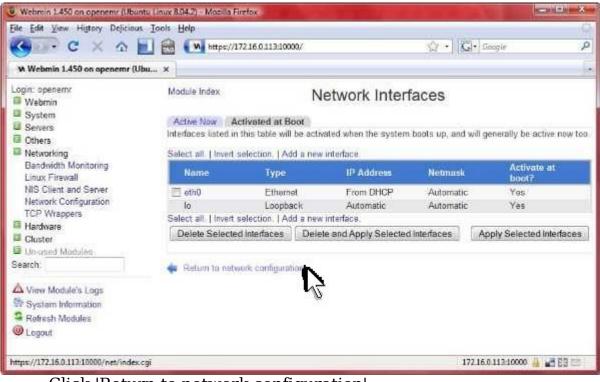
Click the 'Activated at Boot' tab.



#### Click 'eth0'.

Webmin 1.450 on openemr (l	https://172.16.0.113:10000/	☆ • Google
Login: spenemr Webmin		ootup Interface
System Servers	Boot Time Interface Parameters	
Conters  Conters  Conternation  Conternation  Conternation  Continuation  Continuation  Continuation  Continuation  Continuation  Conternation  Conternatio	Name eth0 Address source From DHCP From BOOTP Static IP configuration Address Notmask Broadcar	k
Search: View Module's Logs System Information Refresh Modules Ucgout	Save Delete and Apply Delete	

- 1) Toggle on 'Static configuration'.
- 2) Enter 'Appliance IP Address' into 'IP Address' field.
- 3) Enter 'Subnet Mask' into 'Netmask' field.
- 4) Enter 'Broadcast IP Address' into 'Broadcast' field.
- 5) Click 'Save'.



Click 'Return to network configuration'.



Click 'Routing and Gateways'.

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Webmin     System     Servers     Others     Networking     Bandwidth Monitoring	Module Index Boot time configura This section allows you network settings are fu	tion Active configur to configure the router lly re-applied.	a that are activated v	Ways	when
Eardware Monitoring Linux Firewall NIS Client and Server Network Configuration TCP Wrappers Hardware Cluster	Default router 👜 N	n activated at boot U one (or from DHCP) face Network face Network	Gateway Netmask	eth0 + Gateway stmask	
Search:	Save Save	configuration			
Done				172.16.0.113.10000	

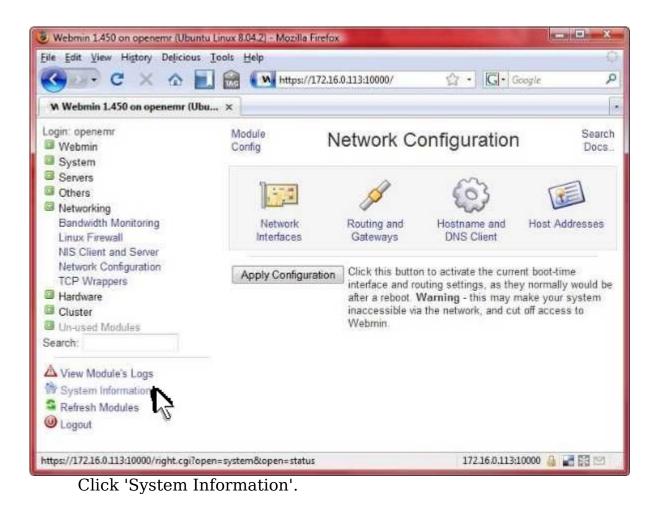
- Toggle on 'Gateway'
   Enter the 'Gateway IP Address' into 'Gateway' field
   Click 'Save'.

Eile Edit View History Dejiciou	ntu Linux 8.04.2) - Mazilia Firefox is Iools Help			
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v Webmin 1.450 on openemr (l.	lbu ×			
Login: openemr Webmin System	Module Config	Network Co	onfiguration	Search Docs
Servers Others Networking		ø	6	
Bandwidth Monitoring Linux Firewall NIS Client and Server	Network Interfaces	Routing and Gateways	Hostname and DNS Client	Host Addresses
Network Configuration TCP Wrappers Hardware	Apply consignation	pply Configuration Click this button to activate the current boot-time interface and routin they normally would be after a reboot. Worning - this may make yo inaccessible via the network and cut off access to Webmin		
E Cluster				2112.S
B Un-used Modules Search:				
View Module's Logs				
System Information Refresh Modules				
@ Logout				
Done			172.16	0.11340000 🔒 📑 🖽

Click 'Hostname and DNS client'.

3 Webmin 1.450 on openemr (Ubunt	i Linux 8.04.2) – Mozilla Fin	efax	-		
Eile Edit Yiew Higtory Delicious	Iools Help				0
C × 2 - C	https://17	2.16.0.113:10000/		🗘 🔹 🖸 Google	٩
Webmin 1.450 on openemr (Ubo					
Login: openemr Webmin System	Module Index	Hostna	me and [	ONS Client	
Servers	<b>DNS Client Option</b>	16			
Others     Networking	Hostname	openemr III Update hostname	in host address	s if channed?	
Bandwidth Monitoring Linux Firewall NIS Client and Server Network Configuration TCP Wrappers	Resolution order DNS servers	Hosts • D	NS 🔸		
D Un used Medules Search:	Save				
View Module's Logs System Information Refresh Modules Logout	두 Return to netwo	rk configuration			
Done				172.16.0.113-100	00 🛔 🛃 🖾 🗇 🗎

Enter the 'DNS server IP Address' values into the 'DNS servers' fields, then click 'Save'.



4. Then reboot the appliance per the instructions found in the '<u>Reboot</u> or Shutdown Appliance' section.

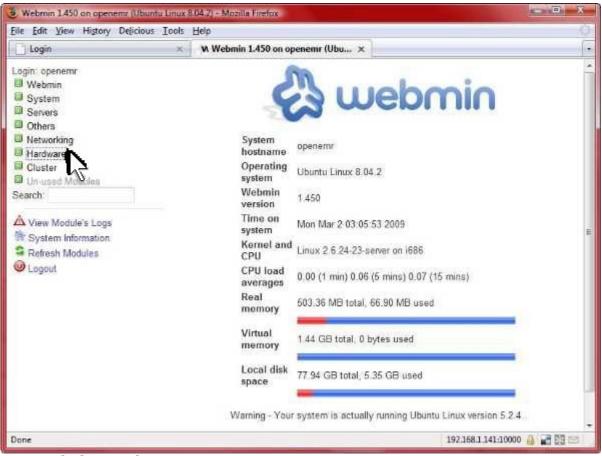
# **Change Clock**

#### Main TOC Link

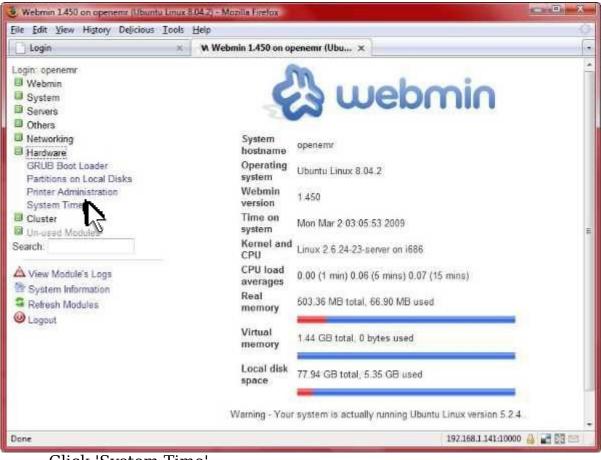
- 1. These are instructions on changing the time in your appliance using Webmin.
- 2. Point a web browser outside your appliance to the Webmin link reported in your appliance <u>introduction</u> screen.

Mozilia Firefox		
<u>File Edit View History Delicious</u>	<u>I</u> ools <u>H</u> elp	÷
W https://192.168.1.167:10000/	x	
		ebmin nter a username and password to to the Webmin server on 192.168.1.167. openemr ••••••••••••••••••••••••••••••••••••
Done		192.168.1.167:10000 실 📰 🖾

Login.



Click 'Hardware'.



Click 'System Time'.

W Webmin 1.450 on openemr (U	bu ×	
ogin: openemr Webmin System Servers Others Networking	Help. Module Config Set time Change timezone Time server sync This form is for changing the system's current time, which is used by processes. On operating systems that have a separate hardware cloc	
Hardware     GRUB Boot Loader     Partitions on Local Disks     Printer Administration     System Time     Cluster     Un-used Modules Search:	System Time         Day       Date       Month       Year       Hour, minute an Monday         Monday       2       March       2009       03       07       100         Apply       Set system time to hardware time       Set system time to hardware time       Set system time to hardware time       Set system time to hardware time	d second
View Module's Logs View Module's Logs View Information Refresh Modules Logout	Name       Month       Year       Hour, minute and         Monday       2       March       2009       03       07       1         Save       Set hardware time to system time       1       1       1       1	

Set the time and timezone of your appliance here. Do **NOT** set up a 'time server sync'; this will screw up your appliance.

## **Change Appliance Password**

Main TOC Link

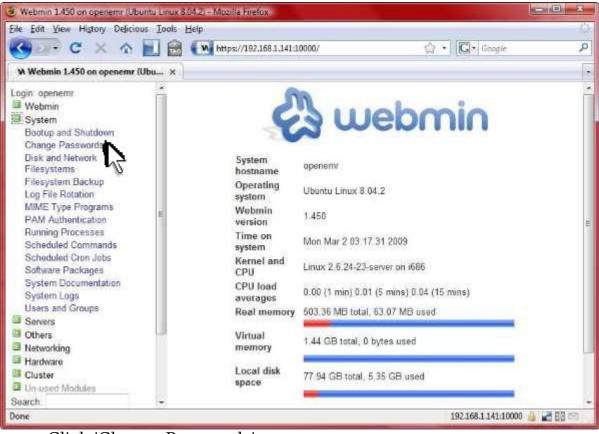
- 1. These are instructions for changing the password to the 'openemr' user in your appliance using Webmin. This is important to secure your appliance. It will effectively change the 'openemr' user password for logging into Webmin, logging into your appliance's commandline, and to confirm usage of the 'sudo' command.
- 2. Point a web browser outside your appliance to the Webmin link reported in your appliance <u>introduction</u> screen.

Mozilia Firefox		
<u>File Edit View History Delicious</u>	<u>I</u> ools <u>H</u> elp	
W https://192.168.1.167:10000/	×	
		Inter a username and password to to the Webmin server on 192.168.1.167. openemr ••••••••••••••••••••••••••••••••••••
Done		permanently?  Login Clear  192.168.1.167:10000

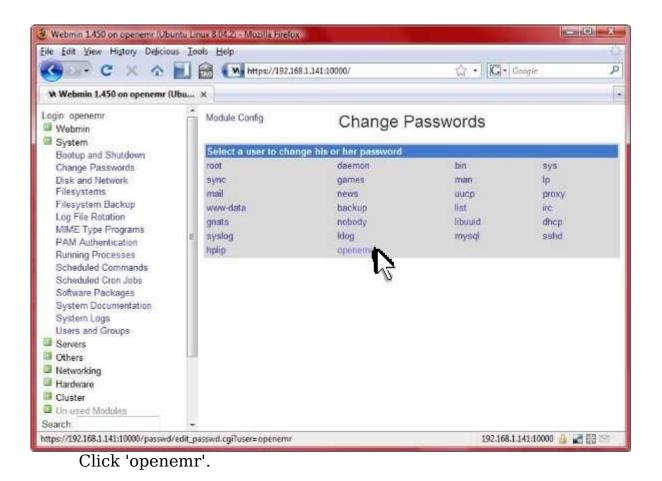
Login.

Login	× ww	ebmin 1.450 on op	enemr (Ubu × CopenEMR 2.8.3 Appliance Manual ×	1
ogin: openemr Webmin Systen Servers Others Networking		System		
Hardware     Cluster     Cluster     Un-used Modules     Search:		hostname Operating system Webmin version	Ubuntu Linux 8.04.2 1.450	
View Module's Logs System Information Refresh Modules		Time on system Kernel and CPU	Mon Mar 2 02:37:20 2009 Linux 2:6 24-23-server on i686	
Logout		System uptime CPU load	2 hours, 0 minutes 0.00 (1 min) 0.00 (5 mins) 0.00 (15 mins)	
		averages Real memory	503.36 MB total, 73.87 MB used	
		Virtual memory	1.44 GB total, 0 bytes used	
		Local disk space	77 94 GB total, 5 35 GB used	

Click 'System'



Click 'Change Passwords'.





Type and confirm new password, then click 'change'

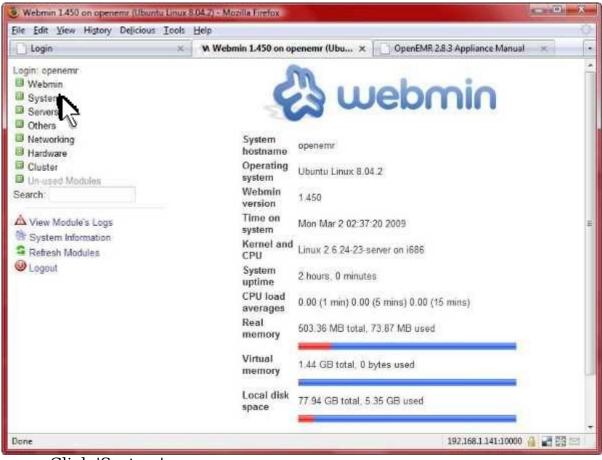
### **Reboot or Shutdown Appliance**

Main TOC Link

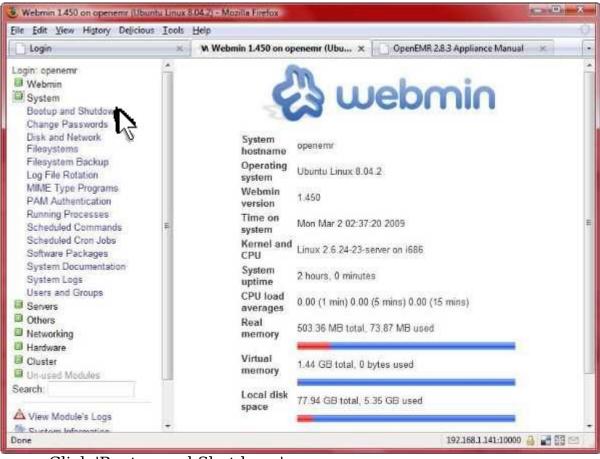
- 1. These are instructions on how to shutdown or restart your appliance using Webmin.
- 2. Point a web browser outside your appliance to the Webmin link reported in your appliance <u>introduction</u> screen.

遵 Mozilia Firefox		
<u>File Edit View History Delicious</u>	<u>I</u> ools <u>H</u> elp	
W https://192.168.1.167:10000/	×	
		Vebmin enter a username and password to in to the Webmin server on
		192.168.1.167
	Username	openenti
	Password	
		E Remember login permanently?
		Login Clear
Done		192.168.1.167:10000 🔒 🛃 🖽

Login.



Click 'System'.



Click 'Bootup and Shutdown'.



Scroll to bottom of page. To reboot your appliance, click the 'Reboot System' button. To shutdown your appliance, click the 'Shutdown System' button. You will be asked to confirm this on the next screen.

### **Desktop Installation**

#### Main TOC Link

- 1. This is for those wimps whom are having difficulty with administration of the appliance via commandline and/or Webmin. These are instructions to install the KDE desktop (includes all the thrills such as OpenOffice etc.) on your appliance. This will increase the size of your appliance by 1.6 GB.
- 2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then type in your user password):

#install kubuntu desktop
sudo apt-get install kubuntu-desktop

-enter Y to continue
-(this will take awhile)
#install the x-windows manager and start it
sudo apt-get install gdm
-enter Y to continue
-enter 'ok'
-select 'kdm'

#restart computer (will now boot into the KDE desktop)
sudo shutdown -r now

# Instructions for Building the OpenEMR Appliance

Main TOC Link

#### LINK TO MANUAL IN PDF FORMAT

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#### Software

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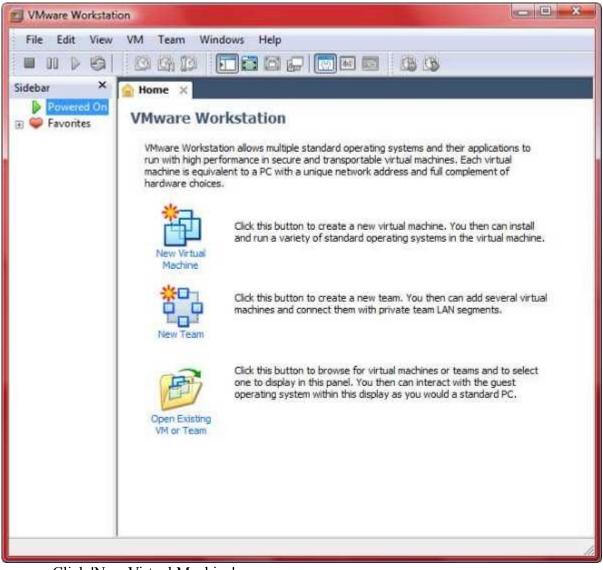
- 1. Ubuntu Server Edition (8.04)
- 2. Apache (2.2.8), MySQL (5.0.51a), and PHP (5.2.4)
- 3. Webmin (1.470 and 1.500)
- 4. OpenEMR (3.0.1 and 3.1.0 and 3.2.0)

### **Install the Ubuntu 8.04 Server Virtual Computer**

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- 1. You can use either VMware Workstation or VMware Server to build the Ubuntu 8.04 Server Appliance.
- 2. Download Ubuntu Server Edition 8.04 installation ISO file from <u>http://www.ubuntu.com/getubuntu/download</u>.
- 3. Ubuntu Server Edition 8.04 Appliance Installation with Vmware Workstation version 6.5:



Click 'New Virtual Machine'.



Select 'Typical', then Click 'Next'.

A virtual machine	ystem Installation is like a physical com you install the guest	puter; it needs an o	operating
Install from:			
💮 Installer <u>d</u> isc:			
DVD RW Drive	1= 3		
lens 2 10 10 Porte	(E;)		
Installer disc image C: \Users\brady\D	file (iso): esktop\ubuntu-8.04.;	2-server-i386.is ▼	Browse
<ul> <li>Installer disc image</li> </ul>	file (iso): esktop\ubuntu-8.04.;	2-server-i386.is 👻	Browse

Browse and select ubuntu-8.04.2-server-i386.iso file, then click 'Next'.

Name the Virtual Machine	
What name would you like to use for this virtual machine?	
<u>V</u> irtual machine name	
OpenEMR-3-0-0-appliance-1	
Location	
C: \Users \brady \Desktop \OpenEMR-3-0-0-appliance-1	Browse
The default location can be changed at Edit > Preferences.	

Type in name of appliance and location to save it to, then click 'Next'. I typed OpenEMR-3-0-1-appliance-1.

and a second	Specify Disk Capacity How large do you war	nt this disk to be?	
Recommended size for Ubuntu: 8 GB Store virtual disk as a single file Split virtual disk into 2 GB files Splitting the disk makes it easier to move the virtual machine to another computer.	computer's physical disk. Th	nese file(s) start small and become larger as y	
Split virtual disk into 2 GB files Splitting the disk makes it easier to move the virtual machine to another computer.	Maximum disk <u>s</u> ize (GB):	80.0	
Split virtual disk into 2 GB files Splitting the disk makes it easier to move the virtual machine to another computer.	Recommended size for Ubur	ntu: 8 GB	
Splitting the disk makes it easier to move the virtual machine to another computer.	🔿 St <u>o</u> re virtual disk as a sir	ngle file	
computer.	Split virtual disk into 2 Gl	B files	
Pocket ACE size calculator	20 0.0 0.0 0.0 0 T C W	it easier to move the virtual machine to anoth	her
	B Pocket ACE size calculat	tor	

Set maximum disk size to 80GB, select 'Split virtual disk into 2GB files', then click 'Next'.

he virtual machine v	vill be created with the following settings:	
Version:	Workstation 6.5	
Operating Syst	Ubuntu	Ē
Hard Disk:	80 GB, Split	
Memory:	512 MB	
Network Adapt	NAT	
Other Devices:	CD/DVD, Floppy, USB Controller, Sound Card	1000
*		

Click 'Customize Hardware...'.

2.0.8.0.		Specify the amount of memory allocated to this virtual
Memory New CD/DVD (IDE) Floppy USB Controller Sound Card Display Processors	512 MB Using file C:\Us Auto detect NAT Present Auto detect Auto detect 1	Specify the amount of memory allocated to this virtual machine. The memory size must be a multiple of 4 MB. Memory for this virtual machine: 512 → M S976 A Guest OS recommended minimum: 64 MB A Recommended memory: 512 MB A Maximum recommended memory: 2888 MB (Memory swapping may occur beyond this size)

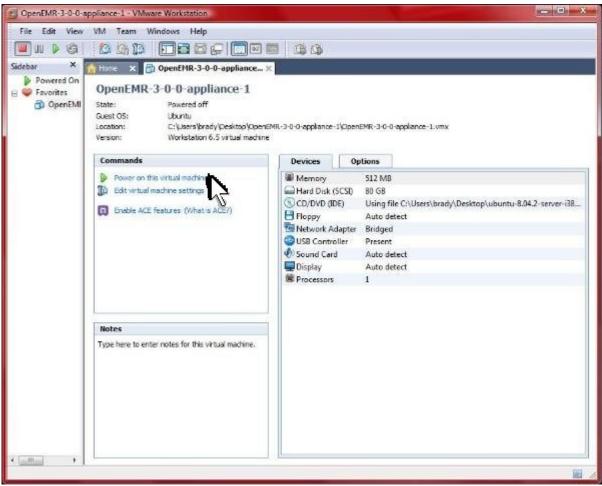
Click 'Network Adapter'.

Device	Summary	Device status
Memory New CD/DVD (IDE) Floppy Network Adapter USB Controller Sound Card Display Processors	512 MB Using file C:\Us Auto detect NAT Present Auto detect Auto detect 1	Connect at power gn  Network connection  Endged: Connected directly to the physical network  Replicate physical network connection state  NAT: Used to share the host's IP address  NAT: Used to share the host's IP address  Custom: Specific virtual network  VMnetD (default Bridged)
	Add	

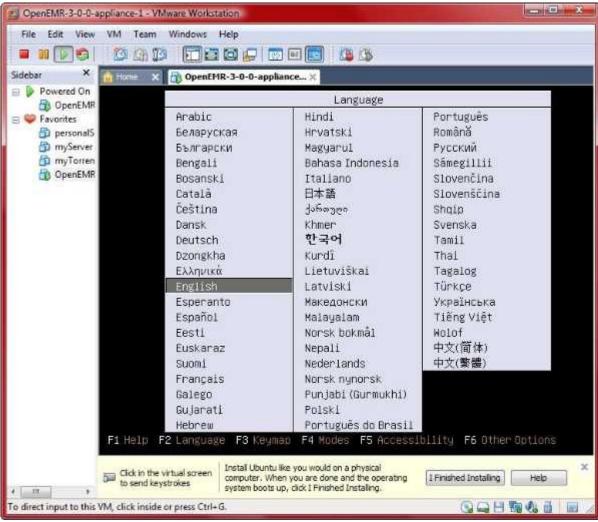
Select 'Bridged: Connected directly to the physical network' and check 'Replicate physical network connection state', then click 'OK'.

he virtual machine v	will be created with the following settings:
Name:	OpenEMR-3-0-0-appliance-1
Location:	C:\Users\brady\Desktop\OpenEMR-3-0-0-appliance
Version:	Workstation 6.5
Operating Syst	Ubuntu
Hard Disk:	80 GB, Split
Memory:	512 MB
* [	

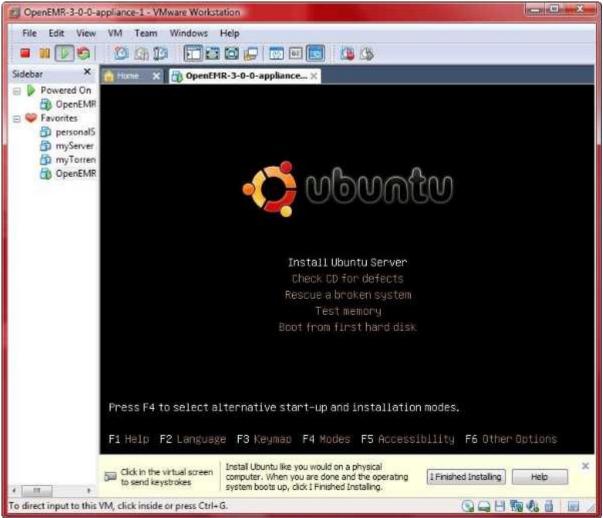
## Click 'Finish'.



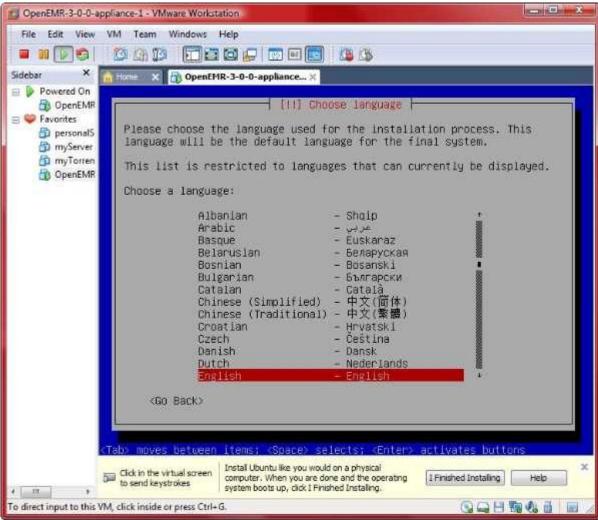
Click 'Power on this virtual machine'.



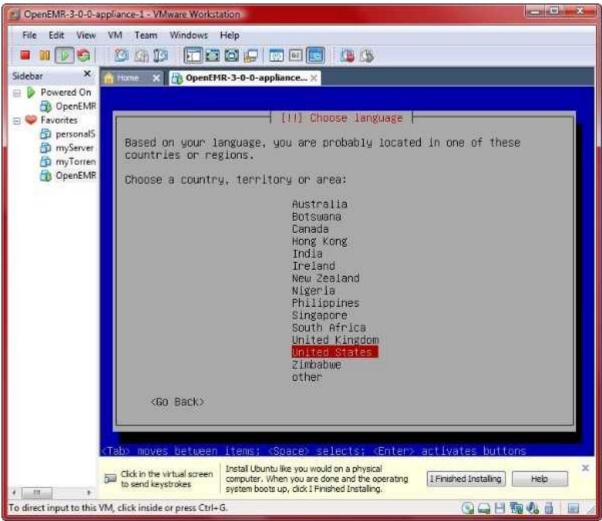
Select language.



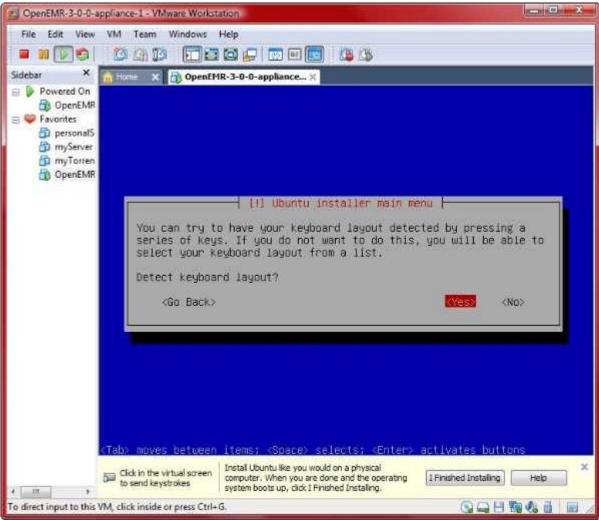
Select 'Install Ubuntu Server'.



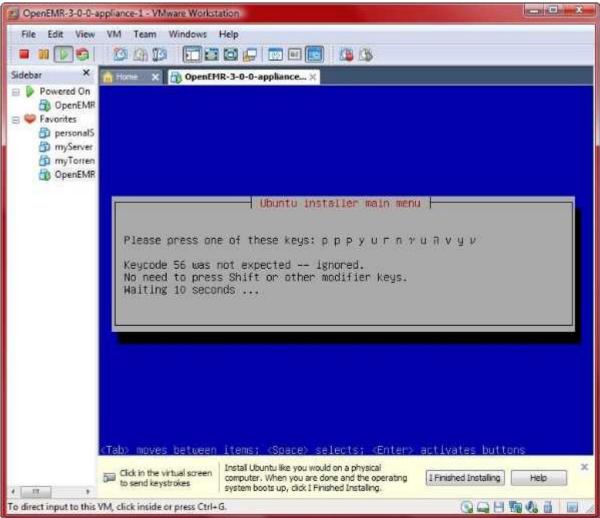
Select language.



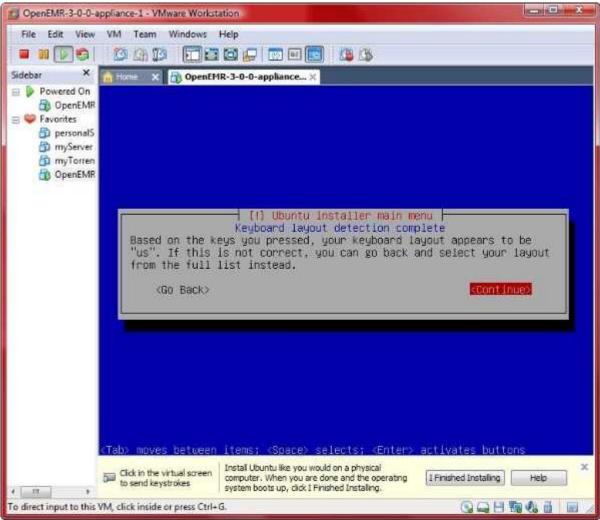
Select country.



Select 'Yes' to detect keyboard layout.



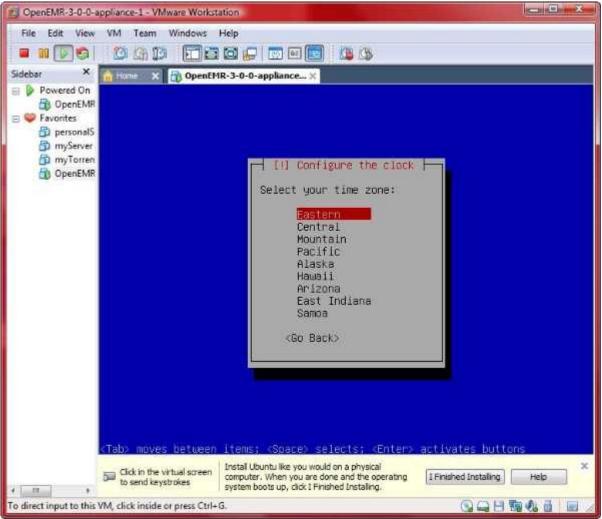
Go through bunch of screens like above to figure out keyboard.



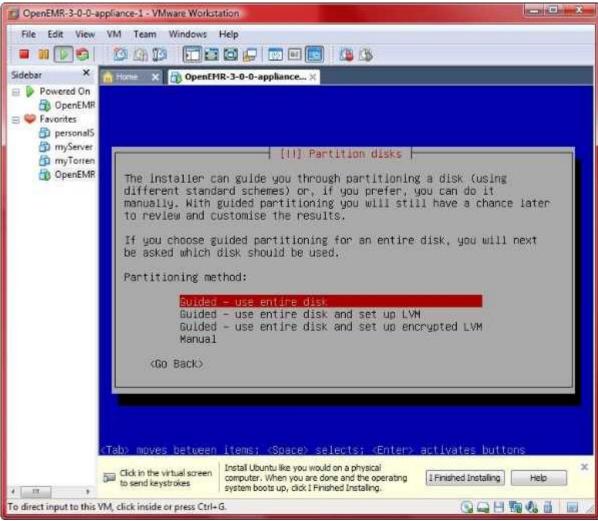
Select 'Continue' if detected correct keyboard.

OpenEMR-3-0-0-appliance-1 - VMware Workstation	
File Edit View VM Team Windows Help	
Sidebar 🛛 🗙 🏠 Home 🗙 📳 OpenEMR-3-0-0-appliance 🗙	
Powered On     GenEMI	
I Ventovi	
[1] Configure the network	
Please enter the hostname for this system.	
The hostname is a single word that identifies your system t	o the
network. If you don't know what your hostname should be, co	nsuit your
network administrator. If you are setting up your own home you can make something up here.	network,
Hostname:	
openemo	
<go back=""></go>	tinges
<tab> moves between items; <space> selects; <enter> activates bu</enter></space></tab>	ttons
Click in the virtual screen to send keystrokes Unstal Ubuntu like you would on a physical computer. When you are done and the operating system boots up, click I Finished Installing.	ng Help X
To direct input to this VM, click inside or press Ctrl+G.	

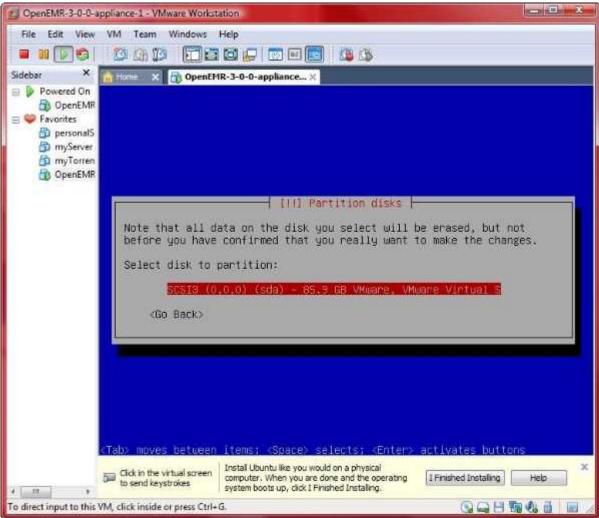
Type 'openemr' for Hostname, and then 'Continue'.



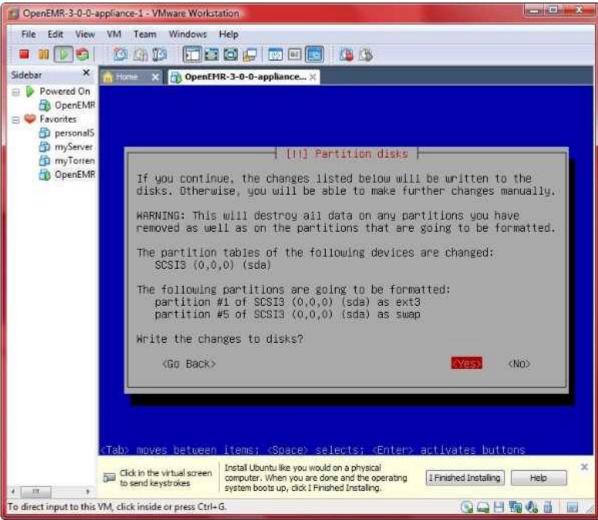
Select time zone, I chose 'Pacific'.



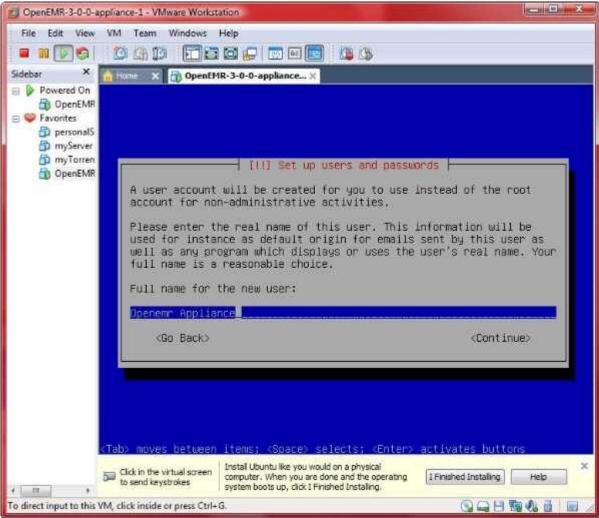
Select 'Guided - use entire disk'.



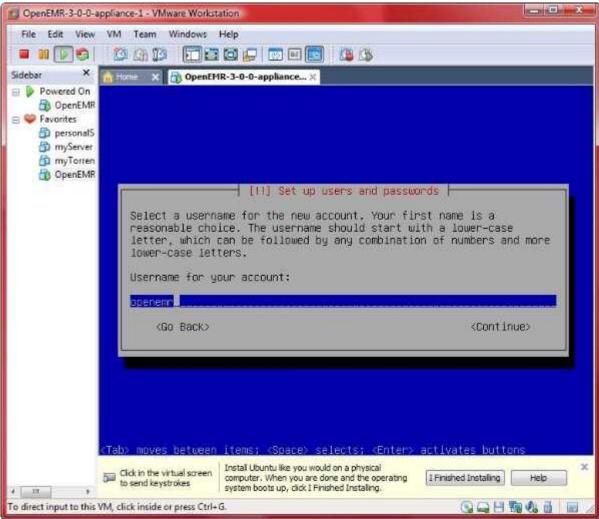
Select the highlighted disk.



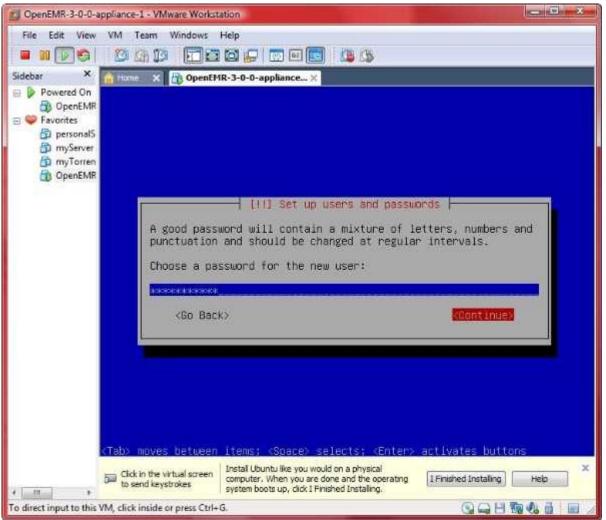
Select 'Yes'.



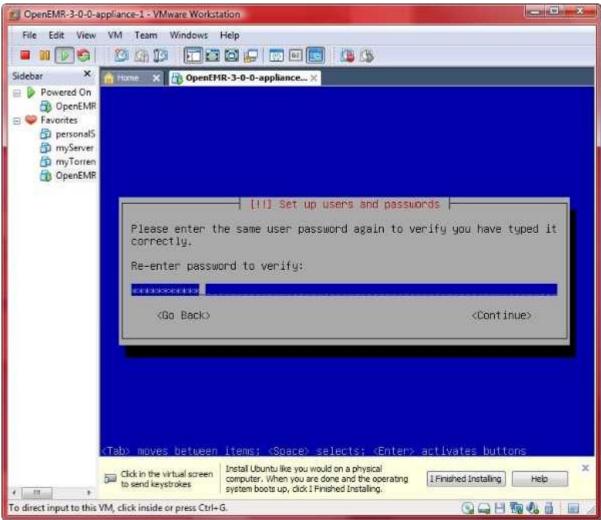
Type 'Openemr Appliance', then 'Continue'.



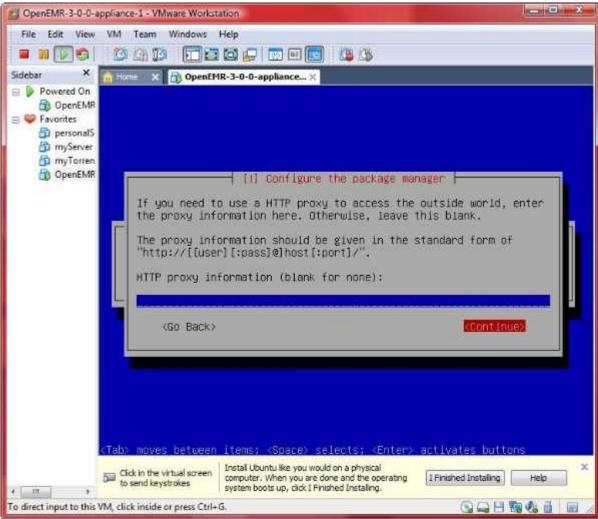
Type 'openemr', then 'Continue'.



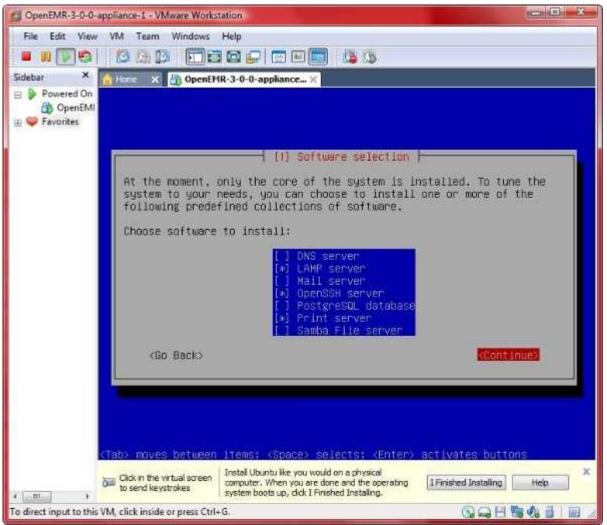
Choose a password. I typed 'openemrcool' for password, then 'Continue'.



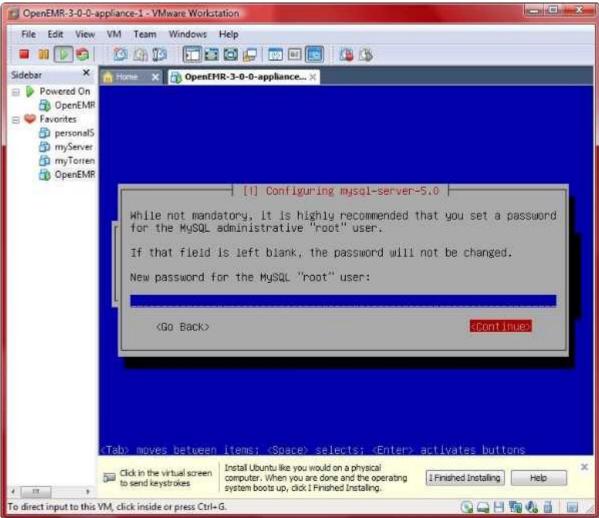
Confirm password 'openemrcool', then 'Continue'.



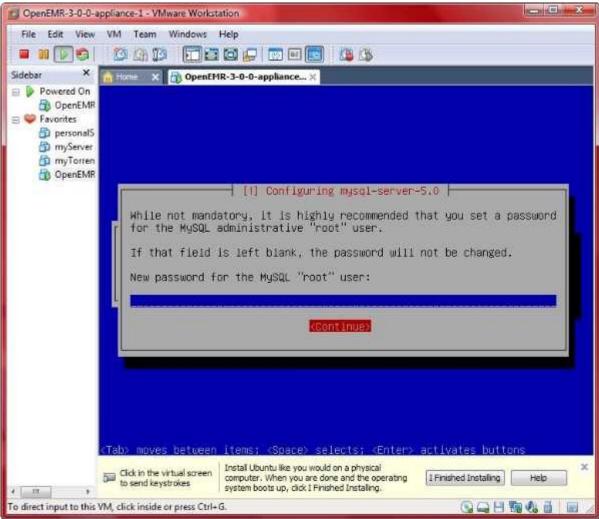
Leave blank and 'Continue'.



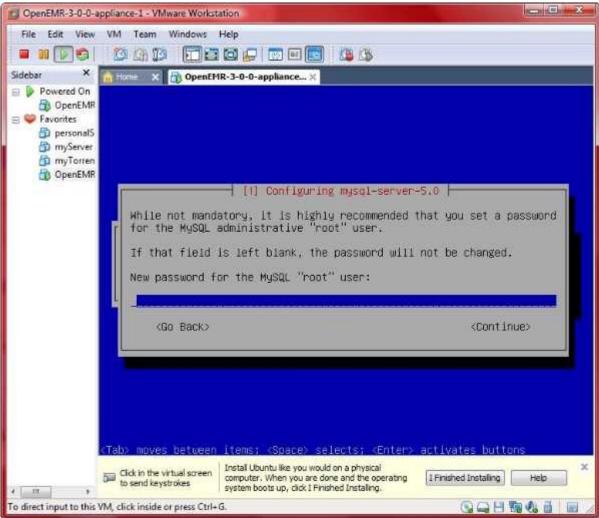
Select 'LAMP server', 'OpenSSH server', and 'Print Server'; then click 'Continue'.



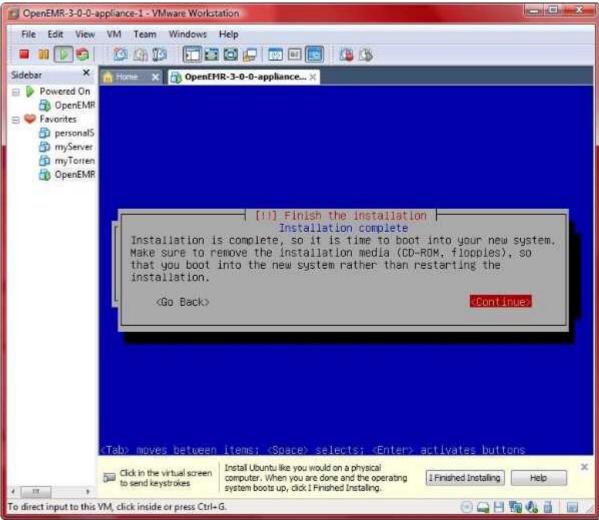
Leave blank and 'Continue'.



Leave blank and 'Continue'.



Leave blank and 'Continue'.



Click 'Continue'.

File Edit View	VM Team Windows H	Help	
Sidebar ×	🔒 Hate 🗙 👘 OpenEMI	R-3-0-0-appliance	
<ul> <li>Powered On</li> <li>OpenEMR</li> <li>Eavorites</li> </ul>			E OK
	Loading AppArnor p		
personais		im space in ∕tmp	T OK
myServer		11: ufu (not enabled)	t ox
myTorren	· contributing use	work interfaces	L OK
DpenEMR	- nevering all cours	ole funt and keynap	L OK
	+ Starting system		T OK
	* Starting kernel	D Secure Shell server sshd	E OK . E OK .
		database server mysgld	I OK
		prrupt, not cleanly closed and upgrade	
		x Mail Transport Agent postfix	I DK
		ed execution scheduler atd	E OK .
		lic command scheduler crond	t ok :
	Starting web se		
		reliably determine the server's full	y qualified domain name;
	using 127.0.1.1 fo	ir gervername	T DK
	* Running local h	ooot scripts (/etc/rc.local)	L OK
	- manning rocur a	was accepta statutionaas	5 041
	Ubuntu 8.04.2 uhun	itu ttyl	
	ubantu login: _		
(	Click in the virtual screen to send keystrokes	Instal Ubuntu like you would on a physical computer. When you are done and the operating system boots up, dick I Finished Installing,	[] Finished Installing.] Help
Langer and the second s	VM, click inside or press Ctrl+0		

login with user:openemr pass:openemrcool

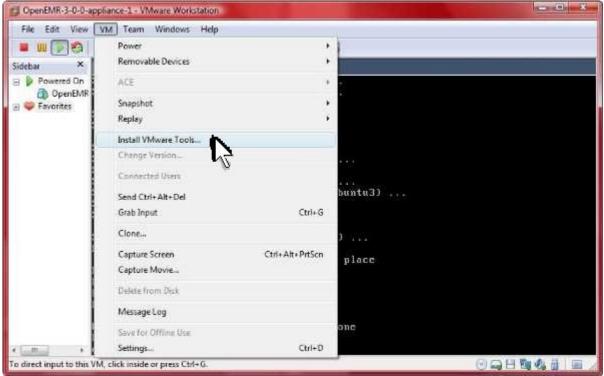
4. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#update and upgrade ubuntu
sudo apt-get update
sudo apt-get upgrade
-enter Y to continue

#Install the php command line, imagemagick, lynx client browser, and jed text editor.
sudo aptitude install jed lynx php5-cli imagemagick
-enter Y to continue

#get packages required by Vmware Tools
sudo aptitude install build-essential linux-headers-\$(uname -r)
-enter Y to continue

5. Prepare to install Vmware Tools:



Click 'VM' in top menu, and select 'Install VMware Tools...'.

6. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#mount the vmware drive
sudo mkdir /mnt/temp
sudo mount /dev/cdrom /mnt/temp

#get and unpackage vmware tools
cp /mnt/temp/VMwareTools-\*.tar.gz .
tar -zxpf VMwareTools-\*.tar.gz

#install Vmware Tools
cd vmware-tools-distrib
sudo ./vmware-install.pl
-hit 'enter' to select default for all questions

#clean up files
cd ..
rm -f VMwareTools-\*.tar.gz
rm -fr vmware-tools-distrib

#unmount the vmware drive
sudo umount /dev/cdrom
sudo rm -fr /mnt/temp

## **Configure PHP and Apache (with SSL)**

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1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#edit the php config file /etc/php5/apache2/php.ini
sudo jed /etc/php5/apache2/php.ini

#edit following variables: short\_open\_tag = On max\_execution\_time = 60 max\_input\_time = 90 memory\_limit = 128M display\_errors = Off log\_errors = On register\_globals = Off post\_max\_size = 30M magic\_quotes\_gpc = On file\_uploads = On upload\_max\_filesize = 30M TEXT EDITOR SAVE AND EXIT

#edit apache2 config file /etc/apache2/apache2.conf
sudo jed /etc/apache2/apache2.conf

#Paste below to end of file: <Directory "/var/www/openemr/documents"> order deny,allow Deny from all </Directory> <Directory "/var/www/openemr/edi"> order deny,allow Deny from all </Directory> <Directory "/var/www/openemr/era"> order deny,allow Deny from all </Directory> TEXT EDITOR SAVE AND EXIT

#create an SSL certificate
sudo openssl req \$@ -new -x509 -days 1825 -nodes
 -out /etc/apache2/apache.pem -keyout
 /etc/apache2/apache.pem
-ok to just select all defaults

#configure SSL in apache2
sudo a2enmod ssl
sudo cp /etc/apache2/sites-available/default
 /etc/apache2/sites-available/ssl
sudo ln -s /etc/apache2/sites-available/ssl /etc/apache2/
 sites-enabled/

#edit file /etc/apache2/sites-available/default
sudo jed /etc/apache2/sites-available/default
#Edit first two lines of file:
NameVirtualHost \*:80
<VirtualHost \*:80>
TEXT EDITOR SAVE AND EXIT

#edit file /etc/apache2/sites-available/default
sudo jed /etc/apache2/sites-available/ssl
#Edit first two lines of file:
NameVirtualHost \*:443

<VirtualHost \*:443>

#Insert the below code right above the 'Loglevel warn'
line:
SSLEngine on
SSLCertificateFile /etc/apache2/apache.pem
TEXT EDITOR SAVE AND EXIT

#edit file /etc/apache2/mods-available/ssl.conf
sudo jed /etc/apache2/mods-available/ssl.conf

**#Uncomment** the following lines (near end of file): SSLCipherSuite HIGH:MEDIUM:!ADH SSLProtocol all -SSLv2 **TEXT EDITOR SAVE AND EXIT** 

#restart apache
sudo /etc/init.d/apache2 restart
-do not worry about the domain name messages

## **Install OpenEMR 3.0.1**

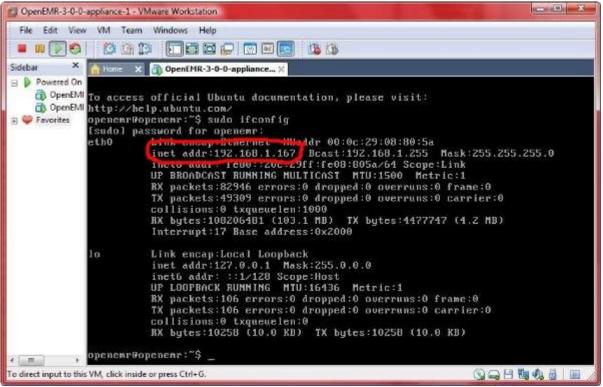
<u>Main TOC Link</u> <u>Chapter Index Link</u>

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#Download OpenEMR
wget http://downloads.sourceforge.net/openemr/openemr-3.0.1.tar.gz

**#**Put the OpenEMR program in its place sudo tar -pxzvf openemr-3.0.1.tar.gz sudo rm -f openemr-3.0.1.tar.gz sudo mv openemr-3.0.1 /var/www/openemr sudo chown -R root:root /var/www/openemr **#**Deal with file permissions sudo chmod 666 /var/www/openemr/library/sqlconf.php sudo chmod 666 /var/www/openemr/interface/globals.php sudo chmod 666 /var/www/openemr/gacl/gacl.ini.php sudo chmod 666 /var/www/openemr/gacl/gacl.class.php sudo chown -R www-data:www-data /var/www/openemr/documents sudo chown -R www-data:www-data /var/www/openemr/edi sudo chown -R www-data:www-data /var/www/openemr/era sudo chown -R www-data:www-data /var/www/openemr/custom/letter templates sudo chown -R www-data:www-data /var/www/openemr/gacl/admin/templates c sudo chown -R www-data:www-data /var/www/openemr/library/freeb sudo chown -R www-data:www-data /var/www/openemr/interface/main/calendar/modules/PostCa lendar/pntemplates/cache sudo chown -R www-data:www-data /var/www/openemr/interface/main/calendar/modules/PostCa lendar/pntemplates/compiled

#Get IP address of appliance **sudo ifconfig** *-Look at screenshot below to get IP address* 



The location where you will find the IP address of your appliance is circled in red above.

3. Now, open a webbrowser outside the appliance and point to (the APPLIANCE\_IP\_ADDRESS was found by above <u>ifconfig</u> command): https://APPLIANCE\_IP\_ADDRESS/openemr/setup.php

(If you are getting a certificate security error, then first follow the instructions in below appendix section '<u>Configuring client web browser for https</u>' to configure your web browser.)

OpenEMR Setup Tool - Mozilla Fi	refox		- 0 ×
Eile Edit View History Deliciou	s <u>I</u> ools <u>H</u> elp		0
📌 OpenEMR Setup Tool	×		-
OpenEMR Setup			
Welcome to OpenEMR. This utili practice.	y will step you through the i	installation and configuration of OpenEl	MR for your
<ul> <li>a PHP configured webserv</li> <li>Detailed installation instru-</li> <li>If you are upgrading from a</li> </ul>	er. ctions can be found in the <u>11</u> previous version, do NOT u	stalled and configured MySQL server a <u>NSTALL'</u> manual file. Ise this script. Please read the "Upgradi	
found in the <u>INSTALL</u> man We will now ensure correct file ar		ore starting installation:	
Ensuring following files are world- '/var/www/html/openemr/library/so '/var/www/html/openemr/interface/ '/var/www/html/openemr/gacl/gacl '/var/www/html/openemr/gacl/gacl	lconf.php' file is ready. 'globals.php' file is ready. .ini.php' file is ready.		
Ensuring following directories hav '/var/www/html/openemr/documen '/var/www/html/openemr/edi' direc '/var/www/html/openemr/era' direc '/var/www/html/openemr/library/fre '/var/www/html/openemr/custom/l	ts' directory is ready. tory is ready. tory is ready. eb' directory is ready.	ready	
'/var/www/html/openemr/gacl/adm '/var/www/html/openemr/interface/ '/var/www/html/openemr/interface/	in/templates_c' directory is /main/calendar/modules/Pos /main/calendar/modules/Pos	ready. stCalendar/pntemplates/compiled direc stCalendar/pntemplates/cache director	
All required files and directories h	ave been verified. Click to c	ontinue installation.	
Done			

Click 'Continue'.

OpenEMR Setup Tool - Mozilla Firefox	
<u>Eile Edit View History Delicious Tools</u>	Help
OpenEMR Setup Tool ×	
OpenEMR Setup	
Step 1	
already created the database for me to us supply the MySQL root password.	to create the database on my own or if you have e. For me to create the database, you will need to hay delete or cause damage to data on ue please backup your data.
Have setup create the database	
I have already created the database	
Continue	
Done	192.168.1.167 🔒 🛃 🖾 🔤

Select 'Have setup create the database', then click 'Continue'.

The East View History Depictions Tools Help       Image: Comparison of the Compa	OpenEMR Se	tup Tool - Mozilla Firefox	
OpenEMR Setup         Step 2         Now you need to supply the MySQL sener information and path information. Detailed instructions on each item can be found in the "INTAL" manual file.         MYSQL SERVER:         Sener Host:       localhost         (If you run MySQL and Apacher/PHP on the same computer, then leave this as localhost if they are on separate computers, then enter the IP address of the computer running MySQL.         Sener Host:       localhost         Openemm       (This is the mame of the OpenEMR database in MySQL - "openemr' is the recommended)         Openemm       (This is the name of the OpenEMR login name in MySQL - "openemr' is the recommended)         Password:       (This is the togin Password for when PIP accesses MySQL - is should be at least 8 characters long and composed of both numbers and letters)         Name for root       (This is name for MySQL not account. For localhost, it is usually ok to leave it root.) Root Account:         Root Pass:       (This is the login name of the Soft to the same computer, then leave this as localhost if they are on separate computers, then enter the IP address of the computer running Apache/PHP and MySQL on the same computer, then leave it is a localhost if they are on separate computers.         Note       administrator         Name:       (This is the login name of user that will be created for your. Limit this to one word.)         Initial User:       administrator         Initial User:       administrator	<u>File Edit Viev</u>	v History Delicious <u>T</u> ools <u>H</u> e	lp dir
Step 2         Now you need to supply the MySQL senser information and path information. Detailed instructions on each item can be found in the INSTALT immunal file.         MVSQL SERVER         Senser Host:       localhost         (If you run MySQL and Apache/PHP on the same computer, then leave this as bacahost: if they are on separate computers, then enter the IP address of the computer running MySQL.)         Senser Host:       localhost         Openemr       (This is the name of the OpenEMR database in MySQL - 'openemr' is the recommended)         Database       openemr         Name       openemr         Ins is the login Password for when PHP accesses MySQL - it should be at least 8 characters long and composed of both numbers and letters)         Name for       root         Nott       (This is the login Password for when PHP accesses MySQL - it should be at least 8 characters long and composed of both numbers and letters)         Name for       root         Nott       (This is usually ok to leave it blank.)         User       (If you run Apache/PHP and MySQL not account. For localhost, it is usually ok to leave it blank.)         User       (If you run Apache/PHP and MySQL on the same computer, then leave this as localhost: If they are on separate computers, then enter the IP address of the computer second the completer of you .Limit this to one word.)         Name for       admin       (This is the login name of user that will be created for you. Limi	OpenEMR	Setup Tool ×	•
Now you need to supply the MySQL server information and path information. Detailed instructions on each item can be found in the INSTALL' manual file.  MYSQL SERVER  Server Host: localhost [If you run MySQL and Apache/PHP on the same computer, then leave this as flocalhost].  Server Port: 3306 [This is the MySQL port. The default port for MySQL is 3306.]  Database openemr [This is the name of the OpenEMR database in MySQL - 'openemr' is the recommended]  Password: [This is the name of the OpenEMR database in MySQL - 'openemr' is the recommended]  Password: [This is the name of the OpenEMR database in MySQL - 'openemr' is the recommended]  Password: [This is the name of the OpenEMR database in MySQL - 'spenemr' is the recommended]  Password: [This is the name of the OpenEMR database in MySQL - it should be at least 8 characters long and composed of both numbers and letters] Name for root [This is name for MySQL root account. For localhost, it is usually ok to leave it Yoot'.]  Account: [Coalhost] [If you run Apache/PHP and MySQL on the same computer, then leave this as localhost] [If you run Apache/PHP]]  OPENEMR USER: [Initial Users] [If you run Apache/PHP]]  Marker [Initial Users] [Isoathost] [If you run Apache/PHP]]]  OPENEMR USER: [Initial User] [If you run Apache/PHP]]]  OPENEMR USER: [Initial User] [If you run Apache/PHP]]]  OPENEMR USER: [Initial User] [If you run Apache/PHP]]]]  OPENEMR PATHS: [Isoathost] [If you run Apache/PHP]]]]  OPENEMR PATHS: [If you run Apache/PHP]]]]]  OPENEMR PATHS: [If you run Apache/PHP]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]]	OpenEMR	Setup	
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Database Name:       openemr       (This is the name of the OpenEMR database in MySQL - 'openemr' is the recommended)         Password:       (This is the name of the OpenEMR login name in MySQL - 'openemr' is the recommended)         Password:       (This is the Login Password for when PHP accesses MySQL - it should be at least 8 characters long and composed of both numbers and letters)         Name for Root       root       (This is name for MySQL root account. For localhost, it is usually ok to leave it 'root'.)         Root Pass:       (This is your MySQL root password. For localhost, it is usually ok to leave it blank.)         User       localhost       (If you run Apache/PHP and MySQL on the same computer, then leave this as localhost'. If they are on separate on separate.         Initial User:       admin       (This is the login name of user that will be created for you. Limit this to one word.)         Initial User:       admin       (This is the login name of user that will be created for you. Limit this to one word.)         Initial User:       admin       (This is the group that will be created for your users. This should be the name of your practice.)         OPENEMR PATHS:       (Paenemr       (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.)         Path:       (Paenemr       (Set this to the relative html path, ie, what you would type into the web browser after the servaraddress to g	Server Host:	localhost	localhost'. If they are on separate computers, then enter the IP address of the
Name:       openemr       recommended)         Login Name:       openemr       (This is the name of the OpenEMR login name in MySQL - 'openemr' is the recommended)         Password:       (This is the Login Password for when PHP accesses MySQL - it should be at least 8 characters long and composed of both numbers and letters)         Name for root       (This is name for MySQL root account. For localhost, it is usually ok to leave it 'root'.)         Root       (This is your MySQL root password. For localhost, it is usually ok to leave it blank.)         User       Iccalhost         Hostname:       (If you run Apache/PHP and MySQL on the same computer, then leave this as 'localhost'. If they are on separate computers, then enter the IP address of the computer running Apache/PHP.)         OPENEMR USER:       (This is the login name of user that will be created for you. Limit this to one word.)         Initial User:       admin         Initial User:       admin         Initial Group:       Default         OPENEMR PATHS:       Administrator         Absolute       /var/www/openemr         (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.)         OPENEMR PATHS:       /openemr         Absolute       /openemr         HTML Path:       /openemr      <	Server Port:	3306	(This is the MySQL port. The default port for MySQL is 3306.)
recommended)         Password:       (This is the Login Password for when PHP accesses MySQL - it should be at least 8 characters login and composed of both numbers and letters)         Name for Root       root         Root Pass:       (This is name for MySQL root account. For localhost, it is usually ok to leave it 'noot'.)         Account:       (This is your MySQL root password. For localhost, it is usually ok to leave it blank.)         User       localhost         Hostname:       (If you run Apache/PHP and MySQL on the same computer, then leave this as 'localhost'. If they are on separate computers, then enter the IP address of the computer running Apache/PHP.)         OPENEMR USER:       Initial User:         Initial User:       admin         (This is the login name of user that will be created for you. Limit this to one word.)         Initial User:       Administrator         Name:       Default         Initial User:       Administrator         Initial Group:       Default         OPENEMR PATHS:         Absolute       /var/www/openemr         (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.).         Relative       /openemr         HTML Path:       (openemr         Openemr       (Set this t		openemr	
characters long and composed of both numbers and letters)         Name for Root         Root Pass:         Contacters long and composed of both numbers and letters)         Root Pass:         Incalhost         It his is name for MySQL root account. For localhost, it is usually ok to leave it 'root'.)         Root Pass:         Incalhost         It hey are on separate computer, then leave this as localhost.' If they are on separate computers, then enter the IP address of the computer running Apache/PHP.)         OPENEMR USER:         Initial User:       admin         Initial User:       admin         (This is the login name of user that will be created for you. Limit this to one word.)         Initial User's       Administrator         (This is the group that will be created for your users. This should be the name of your practice.)         OPENEMR PATHS:         Absolute       /var/www/openemr         (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not wory about direction of slashes; they will be automatically corrected.)         Relative       /openemr         HTML Path:       (Set this to the relative html path, ie. what you would type into the web browser after the server address to get to OpenEMR. For example, if you type intor the value there ling slash. Do not wory about direction of slashes; they will be automatically correct	Login Name:	openemr	
Root       Account:         Root Pass:       (This is your MySQL root password. For localhost, it is usually ok to leave it blank.)         User       localhost       (If you run Apache/PHP and MySQL on the same computer, then leave this as Tocalhost.' If they are on separate computers, then enter the IP address of the computer running Apache/PHP.)         OPENEMR USER:       Initial User: admin       (This is the login name of user that will be created for you. Limit this to one word.)         Initial User's       Administrator       (This is the real name of the 'initial user'.)         Name:       Initial Oroup:       Default       (This is the group that will be created for your users. This should be the name of your practice.)         OPENEMR PATHS:       Absolute       (Vrat/www/openemr       (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not wory about direction of slashes; they will be automatically corrected.)         Relative       /openemr       (Set this to the relative html path, is. what you would type into the web browser after the server address to get to OpenEMR, recexample, if you type http://127.0.0.1/clinic/openemr' without the trailing slash. Do not wory about direction of slashes; they will be automatically corrected.)         Continue       Continue       Continue	Password:		
User       Iocalhost       (If you run Apache/PHP and MySQL on the same computer, then leave this as localhost'. If they are on separate computers, then enter the IP address of the computer running Apache/PHP.)         OPENEMR USER:       admin       (This is the login name of user that will be created for you. Limit this to one word.)         Initial User's Administrator       (This is the real name of the 'initial user'.)         Name:       Initial Group:       Default         OPENEMR PATHS:       (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.)         Relative HTML Path.       /openemr       (Set this to the relative html path, ie. what you would type into the web browser after the server address to get to OpenEMR. For example, if you type 'http://127.0.0.1/clinic /openemr/ to load OpenEMR, set this to 'clinic/openemr/ without the trailing slash. Do not worry about direction of slashes; they will be automatically corrected.)         Continue       Continue	Root	root	(This is name for MySQL root account. For localhost, it is usually ok to leave it 'root'.)
Hostname:       Tocalhost: If they are on separate computers, then enter the IP address of the computer running Apache/PHP.)         OPENEMR USER:       Initial User:       admin         Initial User:       admin       (This is the login name of user that will be created for you. Limit this to one word.)         Initial User's       Administrator       (This is the real name of the "initial user'.)         Name:       Initial Group:       Default         OPENEMR PATHS:       (This is the group that will be created for your users. This should be the name of your practice.)         OPENEMR PATHS:       Absolute       /var/www/openemr         Path:       /openemr       (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.)         Relative       /openemr       (Set this to the relative html path, ie. what you would type into the web browser after the server address to get to OpenEMR. For example, if you type http://127.0.0.1/clinic/openemr/ to load OpenEMR, set this to '/clinic/openemr' without the trailing slash. Do not worry about direction of slashes; they will be automatically corrected.)         Continue       Continue	Root Pass:		(This is your MySQL root password. For localhost, it is usually ok to leave it blank.)
Initial User:       admin       (This is the login name of user that will be created for you. Limit this to one word.)         Initial User's       Administrator       (This is the real name of the 'initial user'.)         Name:       Initial Group:       Default       (This is the group that will be created for your users. This should be the name of your practice.)         OPENEMR PATHS:       Absolute       (Var/www/openemr       (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.)         Relative       /openemr       (Set this to the relative html path, ie. what you would type into the web browser after the server address to get to OpenEMR. For example, if you type 'http://127.0.0.1/clinic /openemr/ without the trailing slash. Do not worry about direction of slashes; they will be automatically corrected.)         Continue       Continue		localhost	localhost'. If they are on separate computers, then enter the IP address of the
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Name:       Initial Group:       Default       (This is the group that will be created for your users. This should be the name of your practice.)         OPENEMR PATHS:       Absolute       /var/www/openemr       (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.)         Relative       /openemr       (Set this to the relative html path, ie. what you would type into the web browser after the server address to get to OpenEMR. For example, if you type 'http://127.0.0.1/clinic /openemr/ to load OpenEMR, set this to '/clinic/openemr' without the trailing slash. Do not worry about direction of slashes; they will be automatically corrected.)         Continue       Continue	Initial User:	admin	(This is the login name of user that will be created for you. Limit this to one word.)
OPENEMR PATHS:         Absolute Path:       /var/www/openemr         Continue       (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.)         Relative HTML Path:       /openemr         (Set this to the relative html path, ie. what you would type into the web browser after the server address to get to OpenEMR. For example, if you type 'http://127.0.0.1/clinic /openemr/ to load OpenEMR, set this to '/clinic/openemr' without the trailing slash. Do not worry about direction of slashes; they will be automatically corrected.)         Continue		Administrator	(This is the real name of the "initial user".)
Absolute Path:       /var/www/openemr       (This is the full absolute directory path to openemr. The value here is automatically created, and should not need to be modified. Do not worry about direction of slashes; they will be automatically corrected.)         Relative HTML Path:       /openemr       (Set this to the relative html path, ie. what you would type into the web browser after the server address to get to OpenEMR. For example, if you type 'http://127.0.0.1/clinic /openemr/ to load OpenEMR, set this to '/clinic/openemr' without the trailing slash. Do not worry about direction of slashes; they will be automatically corrected.)         Continue	Initial Group:	Default	
Path:	OPENEMR	PATHS:	
HTML Path: the server address to get to OpenEMR. For example, if you type 'http://127.0.0.1/clinic /openemr/ to load OpenEMR, set this to '/clinic/openemr' without the trailing slash. Do not worry about direction of slashes; they will be automatically corrected.) Continue		/var/www/openemr	created, and should not need to be modified. Do not worry about direction of slashes;
		/openemr	the server address to get to OpenEMR. For example, if you type 'http://127.0.0.1/clinic /openemr/ to load OpenEMR, set this to '/clinic/openemr' without the trailing slash. Do
Done 192.168.1.167 🔒 🖬 🖾	Continue		
	Done		192.168.1.167 🔒 🛃 🖾

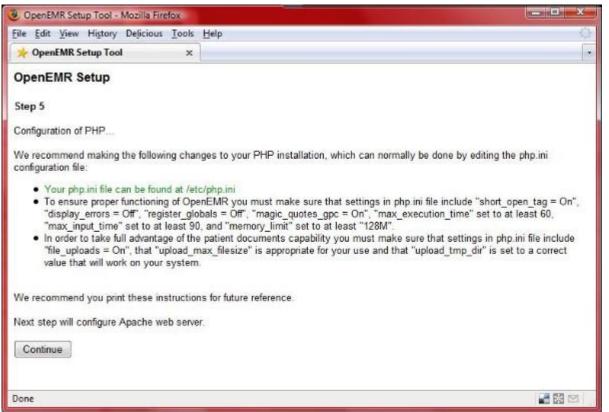
For my appliance I typed 'openemr' into 'Password' field, and otherwise kept defaults. Click 'Continue'.

OpenEMR Setup Tool - Mozilla Firefox	
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>> OpenEMR Setup Tool ×	÷.
OpenEMR Setup	
Step 3	
Configuring OpenEMR	
Connecting to MySQL Server OK. Creating database OK. Creating user with permissions for database OK. Reconnecting as new user OK. Opening databaseOK. Creating initial tables OK Adding Initial User OK Writing SQL Configuration Successfully wrote SQL configuration. Writing OpenEMR webserver paths to config file Successfully wrote OpenEMR webserver paths to config file	
Next step will install and configure access controls (php-GACL).	
Continue	
Done	

Click 'Continue'.

OpenEMR Setup Tool - Mozilla Firefox	- <b>D</b> X
<u>Eile Edit View History Delicious Iools H</u> elp	-0)-
CopenEMR Setup Tool ×	
OpenEMR Setup	W
Step 4	
Installing and Configuring Access Controls (php-GACL)	
Writing php-GACL configuration settings to config files Finished writing php-GACL configuration settings to config files.	
Configuration: driver = mysql,	
host = localhost, user = openemr,	
database = openemr,	
table prefix = gacl_Testing database connection Success! Connected to "mysgl" database on "localhost".	
Testing database type	
Success! Compatible database type "mysql" detected!	
Making sure database "openemr" exists	
Success! Good, database "openemr" already exists! Success! First Step of Access Control Installation Successful!!!	
Successi i list otep of Access Control Installation Ouccession:	
OpenEMR ACL Setup	
All done configuring and installing access controls (php-GACL)!	
Gave the 'admin' user (password is 'pass') administrator access.	
Done installing and configuring access controls (php-GACL). Next step will configure PHP.	
Continue	
Done	

Click 'Continue'.



We have already configured this in the above '<u>Configure PHP and Apache</u> (with SSL)' section. Click 'Continue'.

OpenEMR Setup Tool - Mozilla Firefox	- <b>O</b> X
<u>Eile Edit View History Delicious Tools H</u> elp	12
CopenEMR Setup Tool ×	
OpenEMR Setup	W. 99
Step 6	
Configuration of Apache web server	
The "/var/www/html/openemr/documents", "/var/www/html/openemr/edi" and "/var/ww/ /html/openemr/era" directories contain patient information, and it is important to sec directories. This can be done by placing pertinent intaccess files in these directories the below to end of your apache configuration file: <directory documents="" html="" openemr="" var="" www=""> order deny,allow Deny from all </directory> <directory edi="" html="" openemr="" var="" www=""> order deny,allow Deny from all </directory> <directory era="" html="" openemr="" var="" www=""> order deny,allow Deny from all </directory>	ure these
If you are having difficulty finding your apache configuration file, then refer to the <u>'INS</u> for suggestions.	TALL' manual
We recommend you print these instructions for future reference.	
Click 'continue' for further instructions.	
Continue	
Done	

We have already configured this in the above '<u>Configure PHP and Apache</u> (with SSL)' section. Click 'Continue'.

OpenEMR Setup Tool - Mozilla Firefox	
Eile Edit View History Delicious Tools	Help
📌 OpenEMR Setup Tool 🛛 🗙	
OpenEMR Setup	
Congratulations! OpenEMR is now installe	d.
<ul> <li>/openemr/library/sqlconf.php, /open recommend changing file permission</li> <li>Access controls (php-GACL) are in admin-&gt;acl menu.</li> <li>Reading openemr/includes/config.poptions to choose from including th</li> <li>There's much information and many openemr/Documentation. Many form</li> <li>To ensure a consistent look and fee</li> <li>The OpenEMR project home page a</li> <li>The OpenEMR forums can be found</li> <li>We pursue grants to help fund the festimate how many times this prog It would be awesome if you would e</li> </ul>	permissions on the four configuration files: /openemr/interface/globals.php, iemr/gacl/gacl.ini.php, and /openemr/gacl/gacl.class.php files. In linux, ons with the 'chmod 644 filename' command. stalled for fine-grained security, and can be administered in OpenEMR's hp and openemr/interface/globals.php is a good idea. These files contain many emes. y extra tools bundled within the OpenEMR installation directory. Please refer to ms and other useful scripts can be found at openemr/contrib. el through out the application using Firefox is recommended. and wiki can be found at http://www.oemr.org d at http://sourceforge.net/projects/openemr future development of OpenEMR. To apply for these grants, we need to rram is installed and how many practices are evaluating or using this software. email us at drbowen@charter.net if you have installed this software. The more oftware, the better, but even just sending us an email stating you just installed
We recommend you print these instruction	is for future reference.
The initial OpenEMR user is "admin" a	nd the password is "pass". You should change this password!
If you edited the PHP or Apache configura Apache server before following below Oper	tion files during this installation process, then we recommend you restart your nEMR link.
Click here to start using OpenEMR.	
Done	

Click 'Click here to start using OpenEMR' to go to OpenEMR.

	= 0 X
	0
	•
1EMR	
Username: Password: Login Copyright Notice	
	Username: Password:

Continue to below instructions.

4. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

```
#Re-secure files
sudo chmod 644 /var/www/openemr/library/sqlconf.php
sudo chmod 644 /var/www/openemr/interface/globals.php
sudo chmod 644 /var/www/openemr/gacl/gacl.ini.php
sudo chmod 644 /var/www/openemr/gacl/gacl.class.php
```

## **Install and Configure Webmin**

#### <u>Main TOC Link</u> Chapter Index Lin

- Chapter Index Link
  - 1. Webmin is an awesome way to administer a ubuntu server with a graphical interface remotely.

2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#download Webmin
wget http://prdownloads.sourceforge.net/webadmin/webmin\_1.470\_all.deb

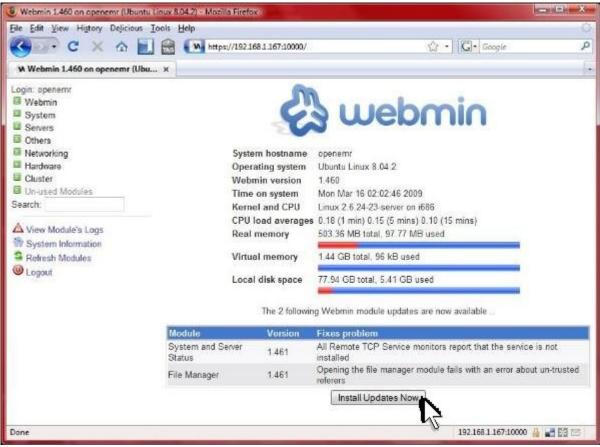
#install Webmin
sudo dpkg -i webmin\_1.470\_all.deb
-IGNORE the dependency errors (below command will install)
sudo apt-get install -f
-enter 'Y' to continue
rm -f webmin\_1.470\_all.deb

1. Now, open a webbrowser outside the appliance and point to (the APPLIANCE\_IP\_ADDRESS was found by above <u>ifconfig</u> command): https://APPLIANCE\_IP\_ADDRESS:10000/

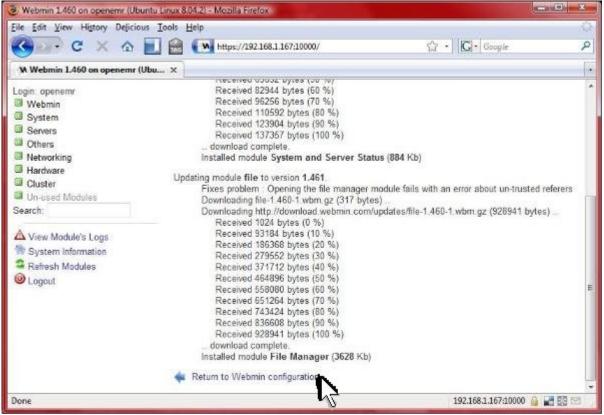
(If you are getting a certificate security error, then first follow the instructions in below appendix section '<u>Configuring client web browser for https</u>' to configure your web browser.)

Mozilia Firefox		
<u>File Edit View History Delicious</u>	<u>T</u> ools <u>H</u> elp	
W https://192.168.1.167:10000/	×	
		ebmin Inter a username and password to to the Webmin server on 192.168.1.167. Openemr •••••••••• Remember login permanently?
		Login Clear
Done		192.168.1.167:10000 실 🛃 🖾

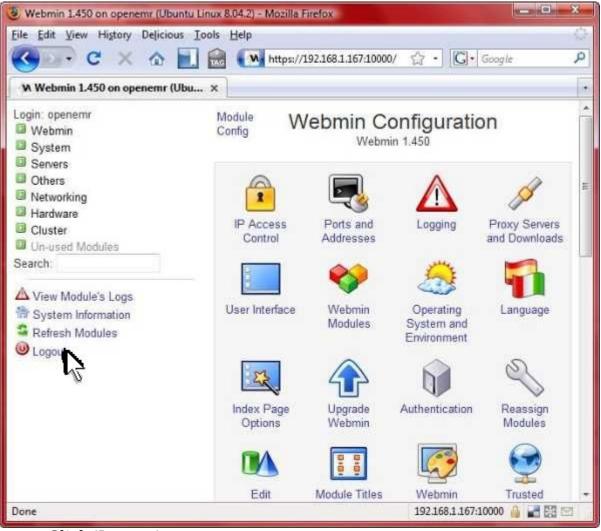
Login with user: 'openemr' and pass: 'openemrcool'.



Click 'Install Updates Now' button.



Scroll to bottom of window and click 'Return to Webmin configuration'.



Click 'Logout'.

# **Configure Firewall**

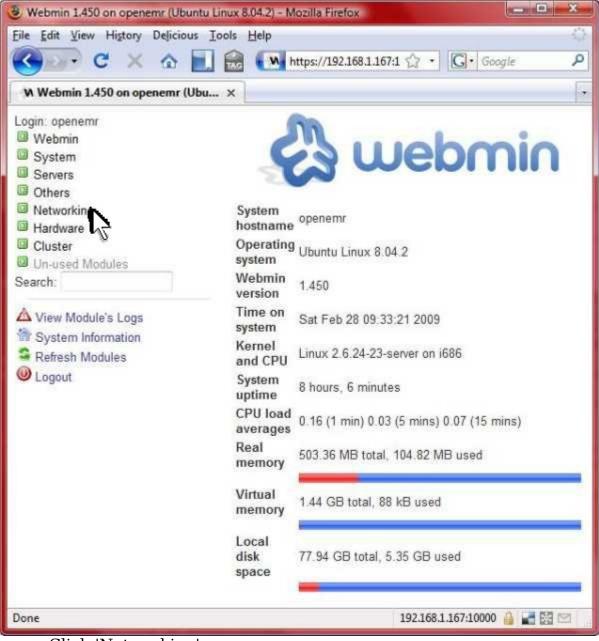
Main TOC Link

- Chapter Index Link
  - 1. We will only allow access to the appliance through ports 22 (SSH), 443 (OpenEMR via https), and 10000 (Webmin via https). Note that we are blocking the http port (80) to force users to use https (encrypted) when connecting to OpenEMR.
  - 2. Open a webbrowser outside the appliance and point to (the APPLIANCE\_IP\_ADDRESS was found by above <u>ifconfig</u> command): https://APPLIANCE\_IP\_ADDRESS:10000/

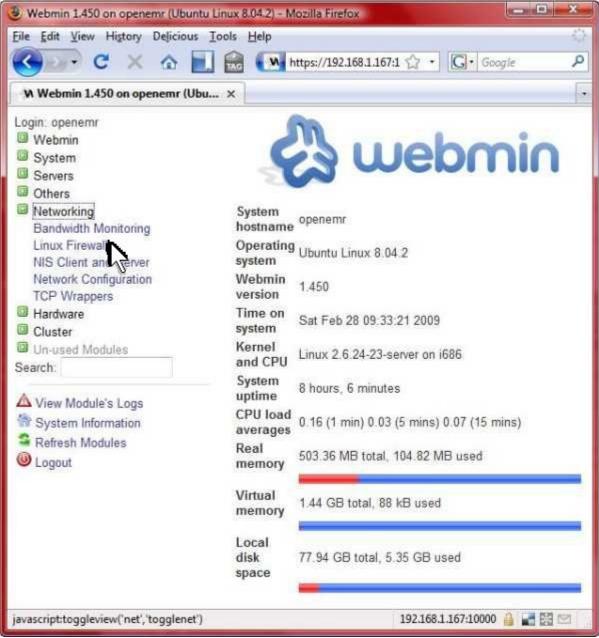
(If you are getting a certificate security error, then first follow the instructions in below appendix section '<u>Configuring client web browser for https</u>' to configure your web browser.)

Mozilia Firefox			
<u>File Edit View History Delicious</u>	<u>I</u> ools <u>H</u> elp		
W https://192.168.1.167:10000/	x		•
		ebmin Inter a username and password to to the Webmin server on 192.168.1.167. Openemr C Remember login permanently?	
		Login Clear	
Done			192.168.1.167:10000 🔒 🛃 🖾

Login with user:'openemr' and pass:'openemrcool'.



Click 'Networking'.



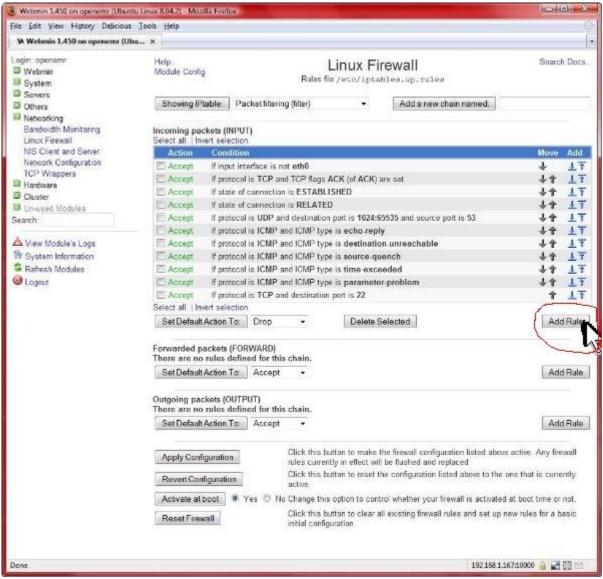
Click 'Linux Firewall'.

送 Webmin 1.450 on openemic (Ubuntu Lin	ax 8.04.2) - Mozili	a finefox		
Eile Edit View History Delicious Ioo	ls <u>H</u> elp			- (J)-
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Select 'Block all except SSH and IDENT on external interface'. Select the 'eth0' interface from the menu next to this. Toggle on the 'Enable firewall at boot time?'. Then click the 'Setup Firewall' button.

ile Edit View History Delicious Io Webmin 1.450 on openemir (Ubu ogin: openemir Vebmin System Servers Others Networking Bandwidth Monitoring Linux Firewall NIS Client and Server Network Configuration	* Help. Module Config		inux Fi	rewall	Searc	h Docs
egin: openemr Webmin System System Seners Others Networking Bandwidth Monitoring Linux Firewal NIS Client and Server	Help. Module Config	Rules file			Searc	h Docs
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Others Networking Bandwidth Monitoring Linux Firewall NIS Client and Server	× • •	fibering (fiber)		10 51		
Networking Bandwidth Monitoring Linux Firewall NIS Client and Server	× • •	181 A	-	Add a new chain named:		
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Linux Firewall NIS Client and Server						
	Select all   Invert selection.					
Network Configuration	Action Condition				Move	Add
0	C Accept If input interfac	e is not eth0			+	1.7
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0 Hardware 9 Cluster	C Accept If state of com	ection is ESTABLIS	HED		44	11
Un-used Modules	Accept If state of com	rection is RELATED			++	17
earch:	Accept If protocol is U	DP and destination (	oort is 1024:6	5535 and source port is 53	++	17
		CMP and ICMP type		and the second data and the deal for the second	44	17
View Module's Logs		MP and ICMP type			44	1.7
System Information	C Accept If protocol is I	MP and ICMP type	is source-qu	ench	41	17
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D Logout	Accept If protocol is II	MP and ICMP type	is paramete	r-problem	++	11
	Accept If protocol is T	CP and destination (	cort is ZZ		44	17
	Accept   If protocol is I	CP and destination (	ort is auth		Ť	17
	Select all.   Invert selection.					-
	Set Default Action To: Do	op 👻	Delete S	Selected	Ad	d Rule
			-		C. C	
	Forwarded packets (FORWA	RD)		15		
	There are no rules defined t	or this chain.		~		
	Set Default Action To: Ar	cept 👻			Ad	d Rule
	State of the second				0.000	
	Outgoing packets (OUTPUT)					
	There are no rules defined f	or this chain.				
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	Apply Configuration			the firewall configuration listed above a	active. Any fire	wall
	Revert Configuration			i be flushed and replaced he configuration listed above to the on	e that is curre	ently
	Activate at boot		option to cont	rol whether your frewall is activated a	t boot time or	not.
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ne					10000 🍶 🛃	

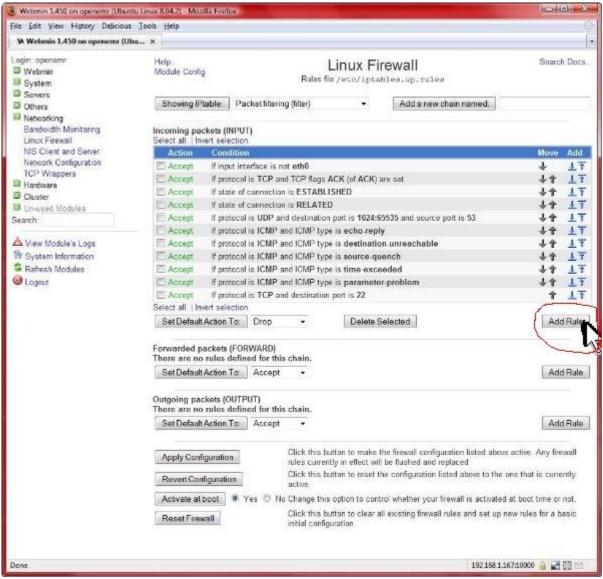
Select the line circled in red above. Then click the 'Delete Selected button.



Click the 'Add Rule' button circled in red above.

A Webmin 1.450 on openemr (U	bu ×				
giri, openemir	Moclule Index				
Webmin	wiscuse index		Add Rule		
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Others Networking		ming packets (INPU)	)		
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Linux Firewall	Action to take 🕐	Do nothing . Acce	pt O Drop O	Reject O Userspace	
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Network Configuration TCP Wrappers	Reject with ICMP type	Default O Type icr	np-net-unreachable 💌		
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Cluster	The action selected above will only be	carried out if all the	conditions below are met	t.	
Un-used Modules	Condition details				
erch:	Source address or network	<pre>dgnored&gt; +</pre>			
View Module's Logs	Destination address or network	<ignored> •</ignored>			
System Information	Incoming interface	<ignored> -</ignored>			
Refresh Modules		C. Taulo de la como			
Legout	Outgoing Interface	<li>dgnored&gt; •</li>			
	Fragmentation	the second se	agmented 🗢 Is not frag	mented	
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	Destination TCP or UDP port	Equals		© Port range	to
			@ P003 443	Or Portrange	10
	Source and destination port(s)	<ignored> +</ignored>			
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			EL FYS CL SZS CL FIS	C 387 C 307 C 188	
	TCP option number is set	<ignored> •</ignored>			
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	Ethernet address	<ignored> -</ignored>	1- CT		
	Packet flow rate	<ignored> +</ignored>	/ second +		
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			Not part of any connect	ton (INVALID) +	
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	Additional parameters				
	Creater				
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	< Return to ales list				

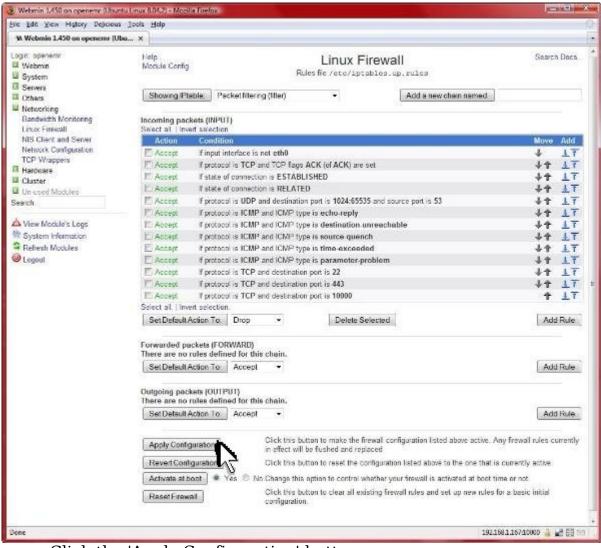
All places that require input are circled in red. Type 'SSL' in 'Rule comment'. Toggle on the 'Accept' in 'Action to take'. In 'Network protocol', select 'Equals'. In 'Destination TCP or UDP port', select 'Equals' and type '443' for 'Port(s). Then click the 'Create' button.



Click the 'Add Rule' button circled in red above.

3 Webmin 1,450 on openeme (Ubur	ru (mux 8.04.2) - Movilla Firefox		
Elle Edit View History Delicious	Jools Help		0
M Webmin 1.450 on openemr (UI	bu X		
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Vetworking		somin )	
Bandwidth Monitoring			
Linux Firewall		Do nothing Accept O Drop O Reject O Userspace	
NIS Client and Server	0	Ext chain IIC Log packet IIC Run chain	
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Hardware	and the strength of the second		
🛄 Cluster		be carried out if all the conditions below are met.	
Un used Modules	Condition details		
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A View Module's Logs	Destination address or network	<pre><gnored> •</gnored></pre>	
1 System Information	Incoming interface	<pre>denorad&gt; • •</pre>	
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	Source TCP or UDP port	dgnored> •  Port(s) O Port range	to
	Destination TCP or UDP port	Equals Port (10000 ) O Port range	to
	Source and destination port(s)	<pre>dqnored&gt; •</pre>	
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	Create		
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	- in grand		
Done		19216811670	

All places that require input are circled in red. Type 'webmin' in 'Rule comment'. Toggle on the 'Accept' in 'Action to take'. In 'Network protocol', select 'Equals'. In 'Destination TCP or UDP port', select 'Equals' and type '10000' for 'Port(s). Then click the 'Create' button.



Click the 'Apply Configuration' button.

Webmin 1,450 on openemr (Ubu	ntu Linux B.04.21 - Mos	la Firefox				1000	<u> </u>
ie gdit ylew History Deliciou	us Iools Help						
W Webmin 1.450 on openemr (U	Ли х						
ogin: openemit	Help			Linux Fire	wall	Searc	h Docs
Vebmin	Module Config	1	10	ules file /etc/iptabli			
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NIS Client and Server	Action	Condition				Move	Add
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Cluster						*T	
Un used Modules	Accept		mection is RELATE			+T	11
earch	Accept			n port is 1024:65535 and	1 source port is 53	+7	13
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Logor	P Accept	If protocol is i	ICMP and ICMP ty	pe is parameter-proble	m	++	11
1.2	III Accept	If protocol is	TCP and destinatio	n port is 22		++	±1
• <i>N</i>	E Accept	If protocol is	TCP and destination	n port is 443		++	71
1	E Accept	If protocol is	TCP and destinatio	n port is 10000		Ť	11
	Select all   Im	ed selection.		15	12	1.1	
	Set Default	Action To Dr	op 📼	Delete Select	ted	Ado	dRule
		ackets (FORWA) rules defined to Action To Ac				Ad	d Rule
	Constantion of the local division of the loc		Apple 2011			114.000	
		kets (OUTPUT) rules defined fo	or this chain.				
	Set Dafault	Action To Ac	cept -			Ad	d Rula
	Apply Conf	guration		tton to make the filewall Rushed and replaced	configuration listed above active. Any fre	ewall rules curr	ently i
	RevertCon	fguration			ration listed above to the one that is curry	antly active.	
	Activate at	oot ] @ Yes			r your firewall is activated at boot time or		
	ResetFirev	ral	Click this be configuration		frewall rules and set up new rules for a t	asic initial	
ne					10116011	5740000 4	E9.59
Click 'I c							N/34

Click 'Logout'.

# **Finishing Touches On Appliance**

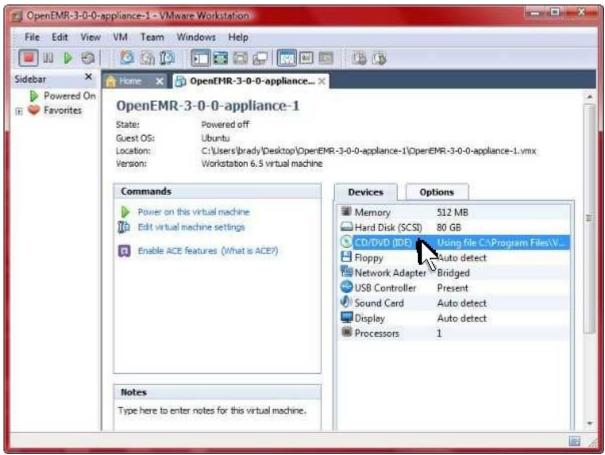
<u>Main TOC Link</u> <u>Chapter Index Link</u>

- 1. We will install a startup/shutdown script. On startup it will configure the introductory screen to give the user required information (IP address, login names/passwords, etc.). On shutdown it will reset the network card to ensure mobility of the virtual appliance.
- 2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#download the script sudo wget http://www.bradymd.com/openemrApplianceScript #install the script
sudo mv openemrApplianceScript /etc/init.d/
sudo chown root:root /etc/init.d/openemrApplianceScript
sudo chmod +x /etc/init.d/openemrApplianceScript
sudo update-rc.d openemrApplianceScript defaults 99

#shutdown the appliance **sudo shutdown -h now** 

1. In Vmware, need to set the CD/DVD drive to autoset.

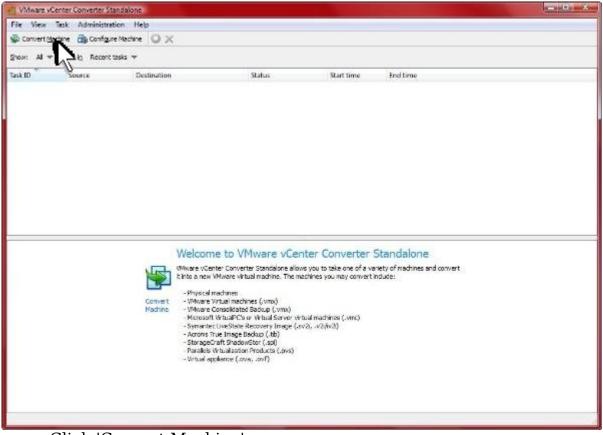


Double-click 'CD/DVD (IDE)'.

Device status			
Connected			
Connect at power on			
Connection			
Use physical drive:			
Auto detect	*	]	
🗇 Use ISO i <u>m</u> age file:			
C:\Program Files\VM	∧are\VN -	Browse,	
	i sen con con con con con con con con con co		-
		Advanced	d
		6	

Select 'Use physical drive' and select 'Auto Detect' from menu. Then click 'OK'.

- 1. Because this appliance was built with Vmware Workstation 6.5, we now need to convert the appliance to an earlier version to ensure compatibility with all Vmware Player and Vmware Server versions. This is done with free software by Vmware, called 'VMware vCenter Converter Standalone Client'.
  - 1. Ensure Vmware Workstation is closed.
  - 2. Download, install, and start the 'Vmware vCenter Converter Standalone Client' from vmware.com (it is free).



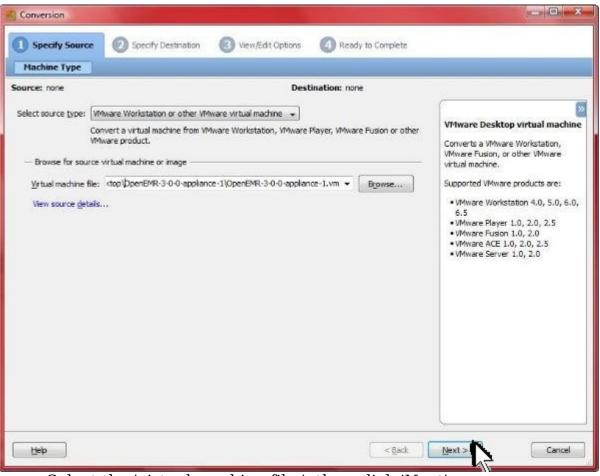
Click 'Convert Machine'.

Conversion	- <b>D</b> ×
Specify Source Specify Destination SView/Edit Options Ready to Complete Machine Type	ete
Source: C:Users'brady'Deplance-1/OpenEMR-3-0-0-appliance-1.vmx Destination: none Select source type: Powered-on machine Convert any powered-on physical or virtual machine Specify the powered-on machine A genote machine User name: User name: User name: User name: User name: Vew source getails	Powered-on machine Converts a running machine to a VMware virtual machine. The machine can be your local machine or a remote machine on the network. When converting a remote machine, provide the IP address or name, administrator or root credentials, and operating system on which to create the machine. Supported operating systems are: • Windows 2000, 2003, XP, Vista, 2008 • Red Hat Enterprise Linux 2.1, 3.0, 4.0, 5.0 • Red Hat Enterprise Linux 2.1, 3.0, 4.0, 5.0 • Red Hat Linux Advanced Server 2.1 • SUSE Linux Enterprise Server 8, 9, 10 • Ubuntu Linux 5.x, 6.x, 7.x, 8.x Linux sources should allow root logn through SSH.
	ack [Vext > Cancel

Click 'Select source type:' field.

Conversion		
Specify Source	Specify Destination 🕜 View/Edit Options 🙆 Ready to	) Complete
Select source type: Power Power VMwa		Powered-on machine Converts a running machine to a Whware virtual machine. The machine can be your local machine or a remote machine on the network. When converting a remote machine, provide the IP address or name, administrator or root credentials, and operating system on which to create the machine. Supported operating systems are: • Windows 2000, 2003, XP, Vista, 2008 • Red Hat Enterprise Linux 2.1, 3.0, 4.0, 5.0 • Red Hat Enterprise Linux 2.1, 3.0, 4.0, 5.0 • Red Hat Linux Advanced Server 2.1 • SUSE Linux Enterprise Server 8, 9, 10 • Ubuntu Linux 5.x, 6.x, 7.x, 8.x Linux sources should allow root logn through SSH.
Hep		<gack next=""> Cancel</gack>

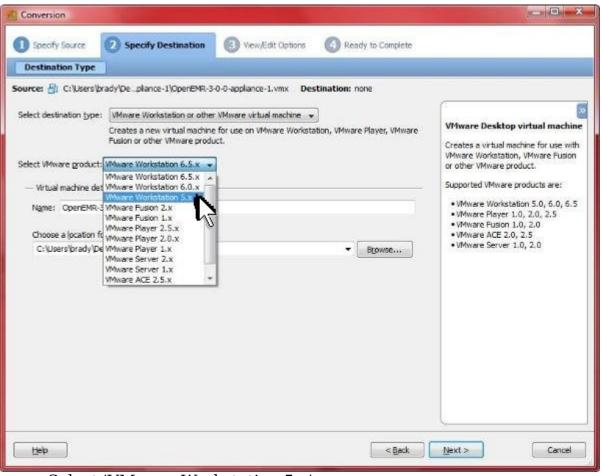
Select 'VMware workstation or other VMware virtual machine'.



Select the 'virtual machine file:', then click 'Next'.

Conversion	-				
Destination Type	Specify Destination	Vew/Edit Options	Ready	to Complete	
Source: 🔂 C:\Users\br Select destination type: Select VMware product: — Virtual machine det Name: OpenEMR-3	Creates a new virtual machini Fusion or other VMware prod VMware Workstation 6.5.x alls -0-0-appliance-1 r the virtual machine:	er VMware virtual machine   • e for use on VMware Workst			VMware Desktop virtual machine Creates a virtual machine for use with VMware Workstation, VMware Fusion or other VMware products are: • VMware Workstation 5.0, 6.0, 6.5 • VMware Payer 1.0, 2.0, 2.5 • VMware Fusion 1.0, 2.0 • VMware ACE 2.0, 2.5 • VMware Server 1.0, 2.0
Нер				< <u>B</u> ack	Next > Cancel

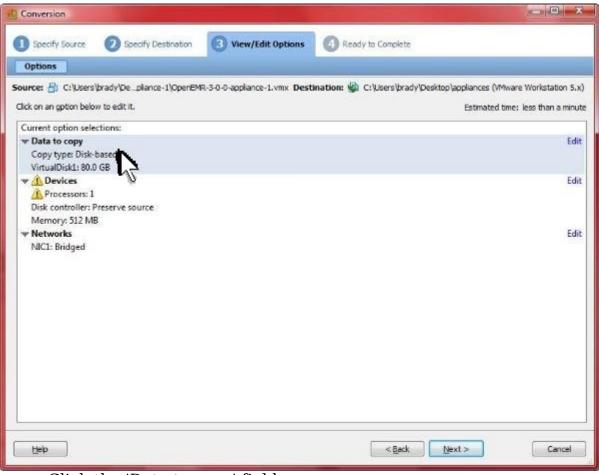
Click 'Select VMware product:' field.



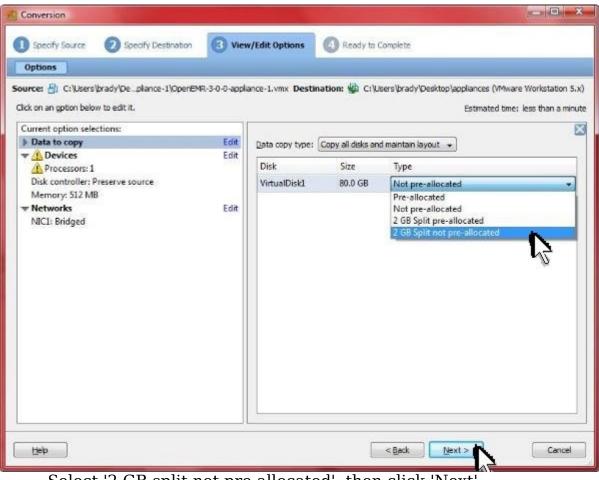
Select 'VMware Workstation 5.x'.

Conversion		
O Specify Source Destination Type	Specify Destination     Wew/Edit Options     Ready to Cor	nplete
Source: 📳 C:\Users\br	ady/Depliance-1/OpenEMR-3-0-0-appliance-1.vmx Destination: none	
— Virtual machine detu Name: OpenEMR-3	Creates a new virtual machine for use on VMware Workstation, VMware Player, Fusion or other VMware product. VMware Workstation 5.x v afs -0-0-appliance-1 r the virtual machine:	Creates a virtual machine for use with VMware Workstation, VMware Fusion or other VMware product. Supported VMware products are: • VMware Workstation 5.0, 6.0, 6.5 • VMware Player 1.0, 2.0, 2.5 • VMware Fusion 1.0, 2.0 • VMware Act 2.0, 2.5
[] Lieb		Back Next > Cancel

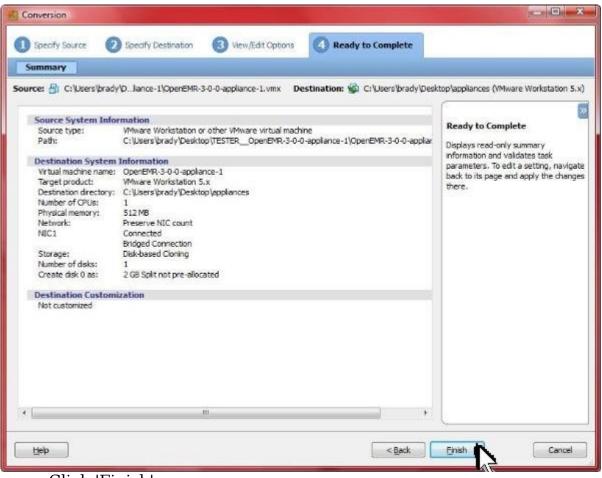
Click 'Next'.



Click the 'Data to copy' field.



Select '2 GB split not pre-allocated', then click 'Next'.



Click 'Finish'.

# **Upgrading to OpenEMR 3.1.0**

<u>Main TOC Link</u> <u>Chapter Index Link</u>

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

```
#Download openemr-3.1.0.tar.gz (version 3.1.0)
wget downloads.sourceforge.net/openemr/openemr-3.1.0.tar.gz
```

```
#install php5-gd package
sudo aptitude update
sudo aptitude install php5-gd
    -enter 'Y'
    -enter 'Y'
```

```
#make backup directories
sudo mkdir /backupopenemr
sudo mkdir /backupopenemr/3_0_1
```

#Backup the mysql openemr database into backup directory.
sudo mkdir /backupopenemr/3\_0\_1/mysqldatabase
sudo sh -c 'mysqldump openemr >
 /backupopenemr/3\_0\_1/mysqldatabase/mysql\_backup.sql'

#move old OpenEMR 3.0.1 to the backup directory
sudo mv /var/www/openemr /backupopenemr/3\_0\_1/openemr

#put the new OpenEMR 3.1.0 program in its place
cd /var/www
sudo tar pxzvf /location/to/tar/openemr-3.1.0.tar.gz
sudo mv openemr-3.1.0 /var/www/openemr

#secure OpenEMR sudo chown -Rf root:root openemr

# Restore some original directories sudo cp -fr /backupopenemr/3\_0\_1/openemr/documents /var/www/openemr/ sudo cp -fr /backupopenemr/3\_0\_1/openemr/era /var/www/openemr/ sudo cp -fr /backupopenemr/3\_0\_1/openemr/edi /var/www/openemr/ sudo cp -fr /backupopenemr/3\_0\_1/openemr/custom/letter\_templates /var/www/openemr/custom

#Need to change some file/folder permissions sudo chown -R www-data:www-data /var/www/openemr/documents sudo chown -R www-data:www-data /var/www/openemr/edi sudo chown -R www-data:www-data /var/www/openemr/era sudo chown -R www-data:www-data /var/www/openemr/custom/letter templates sudo chown -R www-data:www-data /var/www/openemr/gacl/admin/templates c sudo chown -R www-data:www-data /var/www/openemr/library/freeb sudo chown -R www-data:www-data /var/www/openemr/interface/main/calendar/modules/PostCal endar/pntemplates/cache sudo chown -R www-data:www-data /var/www/openemr/interface/main/calendar/modules/PostCal endar/pntemplates/compiled

#Now for the hardest part of the upgrade; editing the new config files. There are three files that need to be compared to your old config files:

**openemr/library/sqlconf.php**: Ensure the variables (\$host, \$port, \$login, \$pass, \$dbase) at top of file are the same as the variables from previous 3.0.1 version. Also, change the \$config variable (found near bottom of file within all the slashes) to \$config = 1;

**openemr/interface/globals.php**: Ensure the variables (\$webserver\_root, \$web\_root) at top of file are the same as the variables from previous 3.0.1 version. Also ensure optional settings are configured like previous 3.0.1 version.

- **openemr/includes/config.php**: Ensure optional settings are configured like previous 3.0.1 version.
- For the openemr 3.0.1/3.1.0 appliance, luckily, only one change is required in /var/www/openemr/library/sqlconf.php .

#edit file /var/www/openemr/library/sqlconf.php:

sudo jed /var/www/openemr/library/sqlconf.php

3. Next, need to upgrade the mysql database. Now, open a webbrowser outside the appliance and point to (the APPLIANCE\_IP\_ADDRESS was found by above ifconfig command):

https://APPLIANCE\_IP\_ADDRESS/openemr/sql\_upgrade.php



Select '3.0.1' and click 'Upgrade Database'.

1. 10.	ise Upgrade - Mozilla Firefox	
🜟 Login	× 😾 OpenEMR Database Upgrade 🛛 🗙	-
	torm_reviewors Criation wist_problems wist_problems varchar(3)	
	form_reviewofs CHANGE hand_problems hand_problems varchar(5)	
ALTER TABLE	form_reviewofs CHANGE hip_problems hip_problems varchar(5)	
ALTER TABLE	form_reviewofs CHANGE knee_problems knee_problems varchar(5)	
ALTER TABLE	form_reviewofs CHANGE ankle_problems ankle_problems varchar(5)	
ALTER TABLE	form_reviewofs CHANGE foot_problems foot_problems varchar(5)	
ALTER TABLE	form_reviewofs CHANGE insulin_dependent_diabetes insulin_dependent_diabetes varchar(5)	)
ALTER TABLE	form_reviewofs CHANGE noninsulin_dependent_diabetes noninsulin_dependent_diabetes	
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ALTER TABLE	form_reviewofs CHANGE hypothyroidism hypothyroidism varchar(5)	
ALTER TABLE	form_reviewofs CHANGE hyperthyroidism hyperthyroidism varchar(5)	
ALTER TABLE	form_reviewofs CHANGE cushing_syndrom cushing_syndrom varchar(5)	
ALTER TABLE	form_reviewofs CHANGE addison_syndrom addison_syndrom varchar(5)	
ALTER TABLE	gaci_phpgacl MODIFY value varchar(150) NOT NULL	
ALTER TABLE	gacl_acl MODIFY section_value varchar(150) NOT NULL default 'system'	
ALTER TABLE	gacl_acl_sections MODIFY value varchar(150) NOT NULL	
ALTER TABLE	gacl_aco MODIFY section_value varchar(150) NOT NULL default '0'	
ALTER TABLE	gacl_aco MODIFY value varchar(150) NOT NULL	
ALTER TABLE	gacl aco map MODIFY section value varchar(150) NOT NULL default '0'	
ALTER TABLE	gacl_aco_map MODIFY value varchar(150) NOT NULL	
ALTER TABLE	gacl_aco_sections MODIFY value varchar(150) NOT NULL	
ALTER TABLE	gacl aro MODIFY section value varchar(150) NOT NULL default '0'	
ALTER TABLE	gacl aro MODIFY value varchar(150) NOT NULL	
ALTER TABLE	gacl_aro_map MODIFY section_value varchar(150) NOT NULL default '0'	
	gacl aro map MODIFY value varchar(150) NOT NULL	
	gacl aro_sections MODIFY value varchar(150) NOT NULL	
	gacl axo MODIFY section value varchar(150) NOT NULL default '0'	
	gacl_axo MODIFY value varchar(150) NOT NULL	
	gacl_axo_map MODIFY section_value varchar(150) NOT NULL default '0'	
	gacl axo map MODIFY value varchar(150) NOT NULL	
	gacl axo sections MODIFY value varchar(150) NOT NULL	
	gacl aro_groups MODIFY value varchar(150) NOT NULL	
	gacl axo groups MODIFY value varchar(150) NOT NULL	
Database upgrad	e finished.	

Ensure you got no errors. Close the window.

4. Next, need to upgrade the php-GACL access controls. Open a webbrowser outside the appliance and point to (the APPLIANCE\_IP\_ADDRESS was found by above <u>ifconfig</u> command): https://APPLIANCE\_IP\_ADDRESS/openemr/acl\_upgrade.php

e Edit <u>V</u> iew Hi <u>s</u> tory <u>B</u> e		
<ul> <li>Login</li> <li>Sensitivities object se</li> </ul>	× / http://172.16.0/acl_upgrade.php ×	
	as been successfully added.	
	ection has been successfully added.	
at a methodata cojeci s	contrains occur successionly address.	
dding new objects		
	'Sensitivities' section already exist.	
	nsitivities' section already exist.	
-	object in the 'Administration' section already exist.	
he 'ACL Administration'	object in the 'Administration' section already exist.	
he 'Price Discounting' ob	ect in the 'Accounting' section already exist.	
he Default List (write, ad	donly optional)' object in the 'Lists' section has been successfully added.	
he 'State List (write, adds	nly optional)' object in the 'Lists' section has been successfully added.	
he 'Country List (write, a	Idonly optional)' object in the 'Lists' section has been successfully added.	
he 'Language List (write,	addonly optional)' object in the 'Lists' section has been successfully added.	
he 'Ethnicity-Race List (v	vrite, addonly optional)' object in the 'Lists' section has been successfully added.	
he Placeholder (Maintai	is empty ACLs)' object in the 'Placeholder' section has been successfully added.	
pgrading objects	aniti itina' anatian ban dana da baaran data d	
ne riign object in the S	nsitivities' section has already been updated.	
dding ACLs(Access C	ontrol Lists) and groups	
he 'Physicians' group alre		
	lonly ACL has been successfully added.	
he 'Front Office' group a		
	ddonly' ACL has been successfully added.	
he 'Accounting' group alt		
he 'Accounting' group 'ad	idonly' ACL has been successfully added.	
pdating the ACLs(Acc	ace Control Lists)	
	he 'Administration' section is already found in the 'Administrators' group 'write' ACL	
	ensitivities' section is already found in the 'Administrators' group 'write' ACL.	*)
-	'Sensitivities' section is already found in the 'Administrators' group 'write' ACL.	
	ensitivities' section is already found in the 'Physicians' group 'write' ACL.	
	'Sensitivities' section is already found in the 'Physicians' group 'write' ACL.	
	'Sensitivities' section is already found in the 'Linicians' group 'addonly' ACL.	
	' object of the 'Administration' section is already found in the 'Administrators' group	write' ACL.
	' object of the 'Administration' section is already found in the 'Physicians' group 'writ	
	object of the 'Administration' section is already found in the 'Clinicians' group 'write	
	object of the 'Administration' section is already found in the 'Administrators' group 'w	
he 'Price Discounting' ob	ject of the 'Accounting' section is already found in the 'Administrators' group 'write' A	ACL.
he 'Price Discounting' ob	ject of the 'Accounting' section is already found in the 'Accounting' group 'write' ACI	
he 'Price Discounting' ob	ject of the 'Accounting' section is already found in the 'Physicians' group 'write' ACL	
accessfully placed the 'D	efault List (write, addonly optional)' object of the 'Lists' section into the 'Administrator	rs' group 'write' ACL.
	ate List (write, addonly optional)' object of the 'Lists' section into the 'Administrators'	
	ountry List (write, addonly optional)' object of the 'Lists' section into the 'Administrate	
	nguage List (write, addonly optional)' object of the 'Lists' section into the 'Administra	
uccessfully placed the 'E	hnicity-Race List (write, addonly optional)' object of the 'Lists' section into the 'Admi	nistrators' group 'write'
CL.		
LL DONE		

5. Secure openemr . Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

sudo chmod 600 /var/www/openemr/acl\_setup.php sudo chmod 600 /var/www/openemr/acl\_upgrade.php sudo chmod 600 /var/www/openemr/sl\_convert.php sudo chmod 600 /var/www/openemr/setup.php sudo chmod 600 /var/www/openemr/sql\_upgrade.php sudo chmod 600 /var/www/openemr/sql\_upgrade.php

#### **Upgrade Database to UTF-8**

<u>Main TOC Link</u> <u>Chapter Index Link</u>

OpenEMR 3.1.0 is 100% UTF-8 compliant to allow special character languages (such as chinese, greek, etc.), however users that are upgrading from a previous version of OpenEMR will continue to have a hybrid UTF-8/latin1 database and thus won't have 100% UTF-8 compliance. Several ways to go for upgraders:

(If decide to convert to UTF8, ensure you backup the database before conversion.)

1) If your only using english characters currently and plan on only using English characters in the future, then doing a simple OpenEMR upgrade will suffice (no need to convert to database to 100% UTF-8).

2) If your only using english characters, however, plan to use a language with any special non-english characters in the future, then you should consider converting your database to 100% UTF-8. In this special case (since you were only using english characters previously) then a simple conversion will work. So, you would do the simple OpenEMR upgrade discussed elsewhere and then do following two command line commands on your upgraded database (assuming database name is openemr):

Step1) mysql --database=openemr -B -N -e "SHOW TABLES" | awk '{print "ALTER TABLE", \$1, "CONVERT TO CHARACTER SET utf8;"}' | mysql --database=openemr &

Step2) mysql -e "ALTER DATABASE openemr CHARACTER SET utf8;" (NOTE that above will alter your database and could possibly screw it up, so BACK IT UP first)

3) If your currently using non-english characters, and want to continue supporting non-english characters. This is the hard one, because OpenEMR's previous releases did not do a very good job maintaining consistent encoding in the database (a very common problem in other software also). You could try above strategy in number 2, however you have a possibility of getting garbage. If 2) doesn't work, then you will likely need to go a strategy like the following linked below:

http://codex.wordpress.org/Converting\_Database\_Character\_Sets

To repeat:

---This only pertains to users that are upgrading (users that are installing 3.1.0 new do not need to worry about this stuff)

---Upgraders that are only planning to use english characters do not need to worry about this stuff. (unless you want to be cool, and say your using OpenEMR with 100% compliance...)

For the appliance upgrade, I will convert via step 2 (since there is no data in the blank appliance, it is straighforward). Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

sudo mysql --database=openemr -B -N -e "SHOW TABLES" | awk
 '{print "ALTER TABLE", \$1, "CONVERT TO CHARACTER
 SET utf8;"}' | sudo mysql --database=openemr &

sudo mysql -e "ALTER DATABASE openemr CHARACTER SET
 utf8;"

### **Upgrading to OpenEMR 3.2.0**

<u>Main TOC Link</u> <u>Chapter Index Link</u>

1. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

#Download OpenEMR 3.2.0
wget downloads.sourceforge.net/openemr/openemr\_3.2.0-1\_all.deb

#Note backups of your previous OpenEMR version are stored at /tmp/openemt-tmp/ . Ensure these files are secure(move to secure area or remove them), since they contain confidential patient information.

# **Upgrading Webmin**

Main TOC Link

Chapter Index Link

2. Enter below **bolded** instructions on command line (if prompted to give password during the sudo command, then use 'openemrcool'):

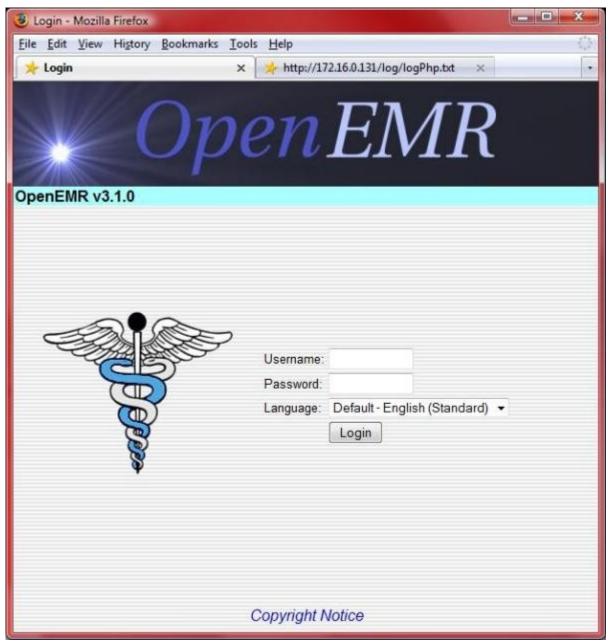
```
#Download Webmin 1.500
wget downloads.sourceforge.net/webadmin/webmin_1.500_all.deb
```

# **Upgrade Language Translation Tables**

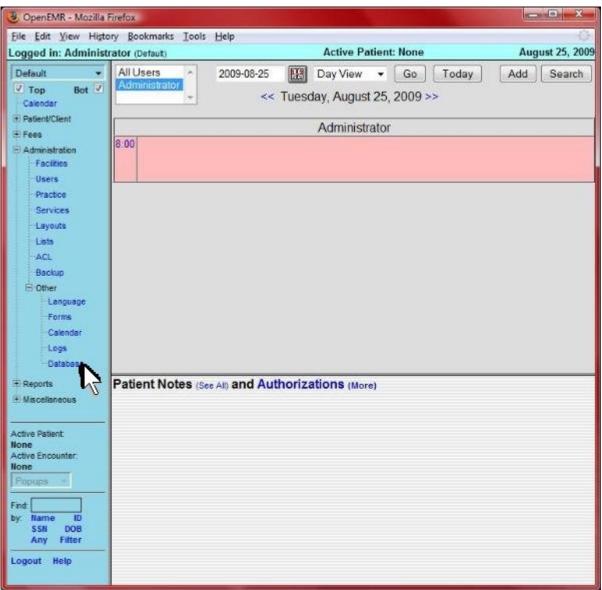
<u>Main TOC Link</u> <u>Chapter Index Link</u>

Here we will upgrade to the language translation tables published with OpenEMR 3.2.0. This is very simple to do. Note, however, that this will delete all current local language translation tables.

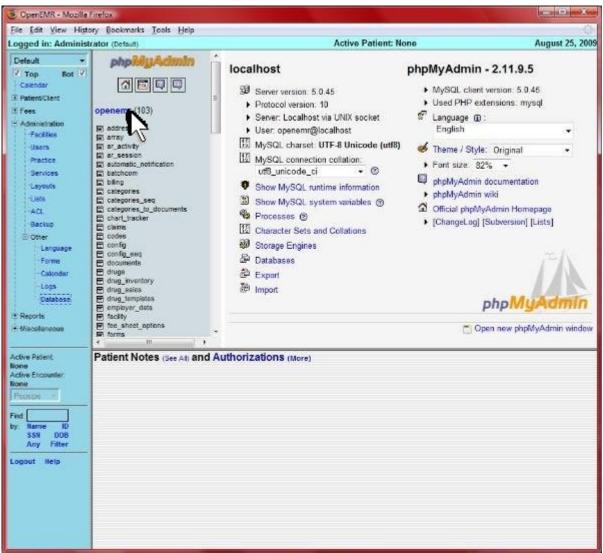
- 1. Download translation sql tables from sourceforge to desktop (via 'File'->'Save Page as'): <u>http://openemr.cvs.sourceforge.net/viewvc/</u> <u>openemr/openemr/contrib/util/language\_translations/currentLang</u> <u>uage\_utf8.sql?revision=1.19.2.3</u>
- 1. Login to OpenEMR:



Login.



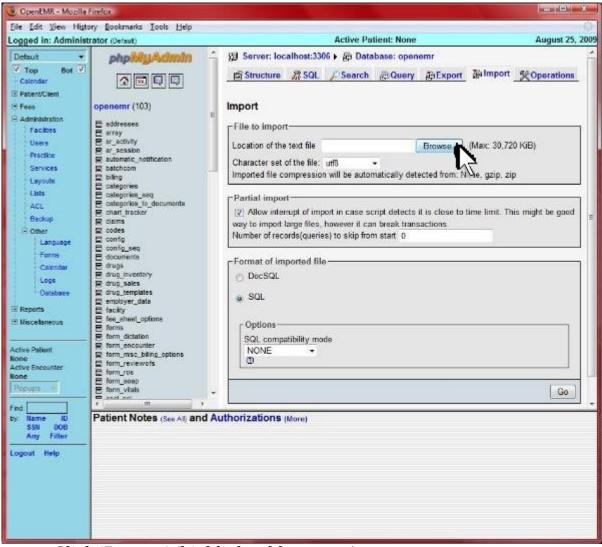
Click 'Administration'->'Other'->'Database' from left tree menu.



Click 'openemr' database link near top left (highlighted by arrow).

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H Other Language	Confg Confg Confg_seq		71	billing		12	ß	世	3÷	12	×	a	MyISAJ
Forms	E documents E drugs		71	categories		Ξ	6	12	-	m	×	5	MyISAM
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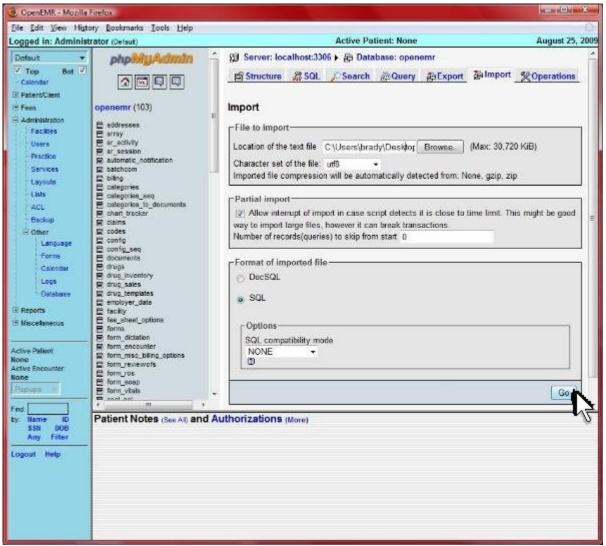
Click 'Import' near top right (highlighted by arrow).



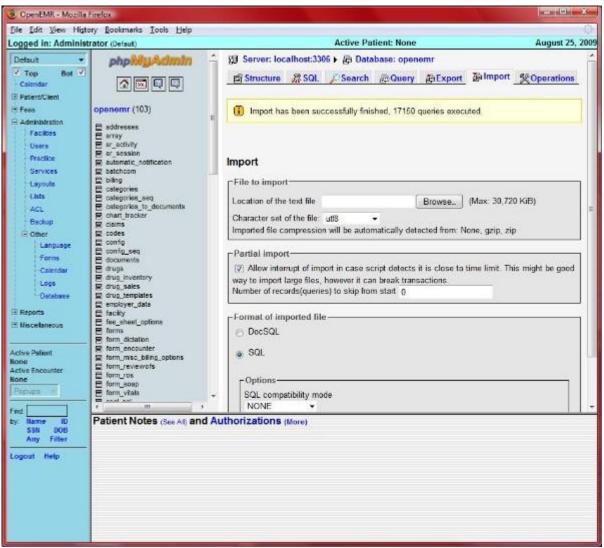
Click 'Browse' (highlighted by arrow).

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Favorite Links	Name         Size         Type         Date modified           21959A_Stamatoyannpolous_UT MD Anderson_with cover ltr.pdf         Adobe Professional adwordKeywords.btt         Adwite Professional adwordKeywords.btt           AML_proteomics.pdf         analyticsTags.btt         Amother_AML_GEP.pdf         appliancel appliancel Boble_Cel_Lines.pdf           AwesomeGepAML_Review.pdf         B_ALL_Cell_Lines.pdf         B_ALL_Cell_Lines.pdf           Bind_grant.pdf         CCHT_Stuff.bat         CCHT_Stuff.bat	f CellLinesLeukemia.pdf CHANGELOG.php Commond Prompt controller.php.jpg Copy of buy.vs.rent1.xls Copy of martgsgecalc.xls Cover_Letter_I11008.doc Cover_Letter_I11008.doc Cover_Letter_I11008.doc Cover_Letter_I11008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_I1008.doc Cover_Letter_IIII008.doc Cover_Letter_IIII008.doc Cover_Letter_IIII008.doc Cover_Letter_IIII008.doc Cover_IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
Folders ^	currentLanguage utf8agl	<ul> <li>All Files</li> </ul>

Select the 'currentLanguage\_utf8.sql' file that you downloaded in above first step, and click 'Open'.



Click 'Go' at bottom right (highlighted by arrow). After click, the import can take up to a minute or so.



After import is done, you should see the above yellow banner stating the import has been successfully finished.

## ALL DONE

# Appendix

Main TOC Link

# A. Configuring client web browser for https

#### Main TOC Link

1. For security, this appliance forces users to use https (encrypted) over a web browser.

Because we are using a homemade security certificate (real certificates cost money), most new web browsers will give a security error. This can easily be dealt with by following the browser instructions to create an exception. I have posted steps for both <u>Firefox and Internet Explorer</u>.

2. Firefox:



Click 'Or you can add an exception...'.

age Load Error - Mozilla	universitere	
Edit View History		
Page Load Error	X	
Sec	ure Connection Failed	
192.	168.1.167 uses an invalid security o	ertificate.
The	certificate is not trusted because it is	s self signed.
	certificate is not valid for any server	
(Erro	r code: sec_error_untrusted_issuer)	
	is could be a problem with the server's co uld be someone trying to impersonate the	
	you have connected to this server success ror may be temporary, and you can try ag	
	should not add an exception if you are using a do not trust completely or if you are not used er.	
G	et me out of here! Add Exception	
	4	
e		

Click the 'Add Exception...' button.

Server				
ocation:	https://192.168.1.16	7/openemr/setup.php	Ge	t Certificate
Certificate St	atus			l
			ŕ	<u>V</u> iew
			۱.	<u></u>

Click the 'Get Certificate' button. (DO NOT edit the 'Location:')

Server —			
Location:	https://192.168.1.167/openemr/setup.p	php	et Certificate
Certificate	Status		
This site at	tempts to identify itself with invalid info	rmation.	View
Wrong Sit	e		<u> </u>
Certificate	belongs to a different site, which could	indicate an identity th	neft.
Unknown	Identity		
Certificate	is not trusted, because it hasn't been ve	rified by a recognized	authority.

Click 'Confirm Security Exception'. Ensure 'Permanently store this exception' is checked, so you don't have to go through this every time. Also, DO NOT change 'Location:'.

#### ALL DONE, go back and continue your previous instructions.

3. Internet Explorer:



Click 'Continue to this website'.

ALL DONE, go back and continue your previous instructions.

# **B. Useful Websites**

Main TOC Link

### **OpenEMR links:**

- 1. <u>http://www.oemr.org/</u> (Main OpenEMR website with a good Wiki and a new forum)
- 2. <u>http://sourceforge.net/projects/openemr/</u> (Main OpenEMR forums are here)
- 3. <u>http://www.bradymd.com/appliance/</u> (OpenEMR Virtual Appliance Homepage)

#### Virtual Machine links:

- 1. <u>http://www.vmware.com/</u> (VMware website)
- 2. <u>http://www.vmware.com/appliances/</u> (VMware virtual appliance explanation)
- 3. <u>http://www.vmware.com/vmtn/appliances/overview.html</u> (Another VMware virtual appliance explanation)

### **General EMR links:**

- 1. <u>http://www.linuxmednews.com/</u> (Open Source EMR news)
- 2. <u>http://www.emrupdate.com/</u> (Great site and forums which discusses proprietary and open source EMRs. It also has a great actively updated price comparison for most proprietary EMR's)
- 3. <u>http://ehr.gplmedicine.org/</u> (Great detailed reviews of OpenEMR, MirrorMed, and FreeMed)
- 4. <u>http://www.bradymd.com/</u> (Installation instructions and quick reviews of OpenEMR, MirrorMed, FreeMed, and VistA.)

## **C. Author Email and License/Disclaimer**

Main TOC Link

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Email:<u>brady@sparmy.com</u>

www.bradymd.com

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